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A FEASIBILITY STUDY OF RELATING SURFACE SHIP OPTAR OBLIGATION PATTERNS TO THEIR OPERATING SCHEDULES

by

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June 1988

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U.S. Navy surface ships receive their annual operating funds from their type commander in the form of an OPTAR (Operating Target). The ship's OPTAR can be viewed as the funding necessary to execute its annual budget. At present the type commander's budget office essentially uses a base plus incremental change budget process to allocate OPTAR. No attempt is made to allocate the OPTAR on the basis of when the funds are likely to be most needed.

This thesis studies OPTAR spending patterns for two classes of Navy ships in the Pacific Fleet and attempts to quantify the relationship between employment and obligation. Regression analysis was used to generate a forecasting model. Based on the results of this analysis, a forecasting model was created that could accurately predict the spending requirements for these two classes of ships. The regression equations and comparison results are presented.

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I. INTRODUCTION

A. BACKGROUND OF ISSUES

The present and predictable future fiscal constraints on the Department of Defense and, in particular, the Department of the Navy, require prudent financial management at all levels in order for mission requirements to be met. Cost consciousness, conservation, and active planning are key factors in financial planning and management. It is essential that each person in the chain of command evaluate the benefits to be derived from each expenditure of funds and ensure that the best interests of mission and material readiness are kept foremost in the evaluation process. Fiscal responsibility must be instilled in all military managers. Dollars need to be allocated where they are most needed. This in turn requires those responsible for allocating funds to know who needs the dollars most and when they are needed. A sound financial management plan is mandatory to achieve these objectives.

U. S. Navy ships receive annual operating funds in the form of an Operating Target (OPTAR). OPTARs are established on the basis of historical requirements, obligation data, and available funding. At present, the type commander's budget office divides each ship's OPTAR authorization into fourths, and at the beginning of each quarter of the fiscal year, allocates one fourth to the ship for execution. OPTAR funds are not allocated on the basis of employment schedule.

B. PURPOSE

The purpose of this thesis is to analyze the OPTAR obligation rates for two classes of surface ships assigned to the U. S. Pacific Fleet and to attempt to draw conclusions as to the impact that operational scheduling has on these rates. Spending patterns will be identified and correlated to operational schedules. Based on these patterns, a forecasting model will be created to allocate funds to individual Surface Forces Pacific (SURFPAC) units. Budget personnel and other fiscal planners, given advance information about ship's scheduling, might be able to use this model to improve their effectiveness in the allocation of scarce resources.

The research questions which will be examined and discussed are as follows:

(1) How does Commander Naval Surface Forces U. S. Pacific Fleet (COMNAVSURFPAC) currently allocate OPTAR funds?

(2) How do SURFPAC units currently execute OPTAR funding grants?

(3) How does a ship's operational schedule impact on costs, and can trends be established in the system for use in management's effort in forecasting OPTAR execution?

C. REVIEW OF PRIOR STUDY

In a previous thesis, an attempt was made to construct a model to explain a ship's OPTAR spending pattern on the basis of the ship's underway days. The study failed to identify any relationship between OPTAR spending patterns and the ship's underway days. However, in a separate section of the same study, the author conducted a variance analysis of OPTAR spending rates and employment schedule and found some identifiable patterns which would be of interest to the current project.

Ideally, the first step of statistical analysis would be hypothesis testing. This would identify whether or not a relationship exists between the variables and, if it did, further analysis involving model fitting could be conducted to quantify these patterns. The previous thesis was flawed in that this sequence of procedures was not followed. In it model fitting was conducted first, using an inappropriate explanatory variable (underway days), and the conclusion was that relationships did not exist. The hypothesis testing was then conducted showing a pattern did exist.

Another flaw of the study is that the patterns may have been blurred by the aggregate approach taken in the analysis. The analysis was done on ten day increments of OPTAR obligation rates and employment categories. The individual effects of separate fund codes were ignored. Defining employment schedules in ten day periods skews the relationships and reduces the significance of the regressions.

As mentioned earlier, the result of the variance analysis did show the existence of a relationship between OPTAR spending rates and employment schedules. However, a comprehensive model for predicting CPTAR obligation rates was never attempted. This thesis will continue the analysis where the prior thesis ended. The objective is to develop an OPTAR spending model by using all relevant ship employment schedules.

D. SCOPE

The scope of this thesis is similar to that of the prior thesis with refined methodology. Data collection involved a random sample of Pacific fleet units from two different classes of ships, the BELKNAP (CG-26) class cruiser and the KNOX (FF-1052) class frigate. (Further information concerning sample selection will be discussed in Chapter IV). Once the sample ships were selected, data concerning the ships' scheduling were collected, along with all available monthly obligation reports and other OPTAR, Budget, and obligation type reports. Two fiscal years of cost and schedule data were used in the analysis. This data was analyzed in an attempt to identify patterns and relationships in OPTAR spending in order to study the thesis questions previously stated.

E. ASSUMPTIONS

The first assumption made in the analysis of the data is that those personnel aboard the individual ships who are responsible for managing the allocated OPTAR resources (Commanding Officer, Executive Officer, Supply Officer, Department Heads) do so in a rational manner. This means that a conscientious attempt is made to husband available resources as opposed to spending haphazardly. While it might be argued that some ships are less than fiscally conservative when it comes to OPTAR management, this assumption is necessary in order to make certain judgments concerning spending patterns. (Williams, 1987)

Next, each class of ship is considered homogeneous. That is neither age differences, special gear or equipment differences, or catastrophic situations were considered which would set the individual ships of each class apart.

Another assumption made is that nominal dollar value between years are the same. In the analysis of the data fiscal year groups 1985 and 1986 were used. No correction for inflation or deflation was applied.

The last assumption made concerns those ships with homeports overseas. For those ships with foreign homeports no Local Operations (LOPS) employment category is used. These ships are considered deployed at any time except when they were actually in their homeport. Putting these ships in a deployed status makes their schedules correspond better to those ships with homeports in the Continental United States.

F. ORGANIZATION OF THE THESIS

As discussed earlier, this thesis focuses on analyzing OPTAR obligation rates and scheduling data for two classes of surface ships in an attempt to draw conclusions as to the impact that operational scheduling has on these rates. Background information is provided in Chapter II, including a description of current OPTAR allocation and execution procedures.

Chapter III discusses models for forecasting the environment, how a model is matched with specific circumstances, the model picked for this analysis, and the reasons behind this choice.

Chapter IV covers the data collection procedures and presents highlights of the data collected, including ship schedules and OPTAR obligation information.

Chapter V contains an analysis of the data collected and an interpretation of the analysis.

The final chapter provides a brief summary of the findings with respect to the analysis of OPTAR obligation rates and their dependency on ship scheduling.

Appendix A contains a complete list of fund codes applicable to SURFPAC units. Appendix B provides detailed information with respect to these same ships' monthly OPTAR obligation rates as reported in monthly Budget OPTAR Report

(BOR). Appendix C provides detailed information with respect to the ships studied in this thesis and their operating schedules for fiscal years 1985 and 1986. Appendix D contains the results of the coefficients of determination for the regressions of the various data sets. In Appendix E the output resulting from the final model for each cost code is presented. In Appendix F the results of comparing Fiscal Year 1987 actual obligation data with an estimate derived from the final model is shown.

II. OPTAR ALLOCATION & EXECUTION

A. OPTAR ALLOCATION

The thesis focuses on the allocation and execution of OPTAR funds to ships of the operating forces. The OPTAR monies allocated to individual ships originates from within the Operations and Maintenance, Navy (O&M,N) accounts of the Annual Budget of the United States. A brief explanation of the flow of these funds follows. This section is comprised of direct quotes and paraphrased sections of both William, 1987 and COMNAVSURFPAC Instruction 4400.1F.

1. Statutory Considerations

Following the appropriation of funds by Congress and apportionment of these funds to the Secretary of Defense by the President's Office of Management and Budget (OMB), all O&M,N funds flow first through the Office of the Comptroller of the Navy (Assistant Secretary of the Navy for Financial Management). Secondly, they are allocated to the Chief of Naval Operations' (CNO) Comptroller. The CNO's Comptroller (OP-92) administers and reallocates the funds to the next level of responsibility, the major claimants.

The major claimants are the higher echelon commanders within the Navy who are responsible for managing their forces within the prescribed limits. The allocation assigned represents a legally binding spending limitation that the major claimant must ensure is not exceeded. The Navy's fleet commanders, Commander in Chief U. S. Atlantic Fleet (CINCLANTFLT) and Commander in Chief U. S. Pacific Fleet (CINCPACFLT), are the major claimants for all operating forces under their respective operational command. The major claimant for the units involved in this study, the Pacific Fleet surface ships, is CINCPACFLT. The next step in the flow of funds is the issuance of an "expense limitation" by the major claimant to the subordinate commanders. For the ships studied in this thesis, the subordinate commander is the Type Commander (TYCOM), COMNAVSURFPAC. COMNAVSURFPAC is responsible to CINCPACFLT for the financial management of all the forces under his command.

COMNAVSURFPAC is assigned the mission of maintaining trained and combat ready forces in support of the United States Pacific Fleet. He provides policy and guidance to ensure that funds are controlled and utilized consistently throughout the force, and that such controls and uses are consistent with the dictates of higher authority. As an "expense limitation" holder, COMNAVSURFPAC is legally liable for the proper expenditure of funds granted to him by CINCPACFLT. The two principal legal statutes involved are 31 U. S. Code 1517 and 31 U. S. Code 1301.

A violation of U. S. Code 1517 entails irregularities in a funds administration and states that when operating budgets are over-obligated, the individual personally responsible for the violation will be identified, and, if warranted, punishment will be recommended. An example of a possible 1517 violation is an informal commitment. This results when someone other than an authorized contracting officer, i.e., the supply officer, or other personnel authorized in writing, commits the government to pay for goods or services. COMNAVSURFPAC units are specifically instructed to ensure adequate measures are taken to prevent the occurrence of informal commitments.

A violation of 31 U. S. Code 1301 occurs when funds are spent on items other than for which the funds were appropriated, i.e., funds used from one appropriation to obtain items applicable to another appropriation. The most likely 1301 violation with which SURFPAC units could be faced is the acquisition of Other Procurement, Navy (OPN) material with O&M,N funds. When a 1301 violation occurs financial records must be corrected. Such action frequently results in a violation of the much more serious 31 U. S. Code 1517.

The final echelon in the chain of command before the actual fleet units, the Immediate Superior in Command (ISIC), is comprised of Group and Squadron commanders. These commanders are directly responsible to COMNAVSURFPAC for the proper management of funds granted for support of their own staffs. They are also responsible for the proper management and expenditure of funds granted by COMNAVSURFPAC directly to ships and units under their command. The ISICs must be aware of their units requirements and management effectiveness, ensure consistent application of published policy and procedures for financial management, and take action as necessary to keep the TYCOM fully informed regarding the readiness of subordinate ships and units as affected by funding policies and grants.

2. Managerial Planning

Annual planning figures are established by CINCPACFLT and funds granted to COMNAVSURFPAC on a fiscal year basis with obligation ceilings established for each quarter. Obligation authority for the majority of these funds is further delegated to force units in the form of OPTAR. The establishment of an OPTAR is considered authorization for the recipient to place obligations against COMNAVSURFPAC funds up to the amount of the OPTAR grant.

OPTAR's are established on the basis of historical requirements, obligation data, and available funding. The prior fiscal year's OPTAR grant represents the base figure COMNAVSURFPAC's budget office uses in the establishment of the current year's OPTAR grant. To this OPTAR base any increase or decrease in the expense limitation, as compared to the previous year's grant, is distributed equally among the force units. To the remaining figure reductions may be made for such things as the ship being scheduled for a regular overhaul (ROH) or being transferred to the Naval Reserve Force (NRF). Increases may be made for such things as extra support for additional/special equipment or if the ship was under funded in the prior fiscal year. Increases or decreases are made to keep consistency within ship classes. The levels established are considered sufficient to support all requirements for which the ship may be assigned during the fiscal year.

OPTARs for fleet units are comprised of two distinct parts. "Repair Parts" (RP) are for funding organization level equipment maintenance and all additional requirements, for example, Charter and Hire services, printing and publications, and lubricants other than for propulsion, etc., are considered to be "Other". The individual fund codes within these two parts will be discussed further in Chapter IV.

An annual funding message is promulgated prior to the start of each fiscal year. It grants OPTAR funds to the force units by quarter. Assigned ceilings are given in the annual funding message and are not to be exceeded without prior TYCOM approval. In addition to the OPTAR levels, supplemental guidance applicable to the administration and management of funds are included in the message.

Individual units are expected to develop a sound financial management plan which ensures that all funds granted each fiscal year will be obligated down to zero by the last day of the fiscal year and that scheduled operational commitments are included in funding considerations. The carry-over of unobligated financial resources into subsequent quarters maximizes OPTAR holder flexibility in responding to changing requirements and priorities and is authorized to the maximum extent possible. However, whenever authorized funds are anticipated to be in excess of projected requirements, notification is required, particularly as the end of the fiscal year approaches. Excess funds are recouped by COMNAVSURFPAC for redistribution to other units in need of additional funds.

Normal quarterly OPTAR grants are intended to provide for all expenses for that quarter. On occasion, costly unanticipated requirements may emerge as a result of emergency or unforeseen circumstances. When such requirements cannot be funded from within the assigned OPTAR without a significant disruptive effect, a loan or augmentation may be requested. An OPTAR loan reduces the amount of OPTAR that the ship will receive in follow-on quarters without impacting on the overall annual OPTAR grant. Loans against a subsequent quarters OPTAR may be requested for such things as annual office equipment lease requirements or to prepare for deployment. The fact that a loan was granted is not justification for another loan in a subsequent quarter. An OPTAR augmentation is an increase in both the ship's quarterly and annual OPTAR and is made from an

Augment Reserve Fund maintained by COMNAVSURFPAC. OPTAR augments will not be granted to cover losses resulting from negligence or failure to exercise judicious financial restraint. All loans and augmentations are granted for specific purposes and must be obligated for those purposes only.

On occasion, it may become desirable to transfer funds between "Repair Parts" and "Other". The most frequent need for OPTAR reprogramming authority is when "Repair Parts" funds become depleted more rapidly than anticipated. Situations also occur when it is desirable to transfer funds from "Repair Parts" to "Other". The most common example of this occurs when a ship enters a ROH or a selected restricted availability (SRA) where demand for consumable material outweighs repair part requirements.

It is the responsibility of each unit to ensure that total obligations do not exceed total funds granted. Although, in emergent situations an OPTAR may be exceeded to preclude the curtailment of a mission or another operational commitment. If a prior fiscal year's OPTAR is over-obligated, attention is given to ensure sufficient cancellations are initiated to reduce this over-obligation. The status of prior fiscal year funds is monitored by COMNAVSURFPAC and should a particular OPTAR holder become significantly over-obligated, a message will be sent to that unit directing corrective action.

Each OPTAR holder is expected to take continuing aggressive action to validate all unliquidated/unfilled orders to ensure only valid obligations are maintained. Each unit is required to report the value of outstanding obligations by fiscal year. This information permits the reprogramming of unobligated funds. The prior year's outstanding OPTAR is revalidated and requisitions for material no longer required or desired are cancelled. Requisitions without current status, long past shipping dates and not received, or which otherwise appear to be lost or cancelled in the system, and for which probability of receipt appears doubtful, are administratively completed. Vigorous follow-up of the remaining requisitions maximizes the benefit of limited OPTAR funds.

As with the annual funding authorization message an annual financial guidance year end close-out message is promulgated. This message provides guidance and procedures for the proper close-out of one fiscal year and smooth transition into the next.

B. OPTAR EXECUTION

An effective and workable financial management plan is an essential tool for the optimum management of an OPTAR. The plan must be sensitive to the operational schedule of the ship and should ensure the utilization of available funds in a manner that achieves maximum material readiness. Participation of the commanding officer, executive officer, supply officer, and all shipboard department heads in developing the plan, and in ensuring adherence to the approved plan is essential. Participation, management, and responsibility is delegated downward to the lowest practical level, e.g., division officer, leading chief petty officer, or work center supervisor. This section is comprised of direct quotes and paraphrases from COMNAVSURFPAC Instruction 4400.1F.

1. Financial Management Plan Responsibilities

The commanding officers are responsible for the proper utilization of funds granted for the operation and maintenance of their assigned ship. Proper utilization of funds requires that expenditures be made consistent with the objective of maximum contribution to the mission readiness of the ship. In carrying out his responsibility for sound financial management the commanding officer is required to ensure:

a) The establishment and execution of a sound annual financial management plan for accomplishing the unit's mission at the most economical cost.

b) The prevention of over obligation of assigned funds except where authorized.

c) The prevention of improper utilization of funds and needless or wasteful spending by careful review of internal budget reports.

d) Personal review and release of the monthly Budget OPTAR Report message.

e) Personal approval of obligation documents costing over $5000 in OPTAR funds.

f) Prompt alerting of COMNAVSURFPAC and the ISIC of circumstances indicating significant funding deficiencies affecting operational readiness.

As the commanding officer's senior managers, department heads are key elements in the development and execution of the command's financial management plan. In carrying out their responsibilities for sound financial management department heads are required to:

a) Become actively involved in budget development, ensuring resource requirements for their respective areas of responsibility are identified and incorporated in the command annual financial management plan.

b) Monitor department expenditure rates, ensuring funds are properly spent and over-obligations do not occur.

c) Ensure material obligation validations are conducted and to identify and cancel requisitions which are no longer required.

d) Personally approve all requests costing over $1000 in OPTAR funds.

The supply officer is responsible to the commanding officer for the proper performance and administration of financial management responsibilities. He makes sure funds are properly managed, utilized, and accounted for on a day to day basis. This is accomplished by acquiring a thorough understanding of financial management policy and procedures, effectively communicating them to the commanding officer and department heads, and by closely monitoring execution within the budget plan.

A sound financial management plan is mandatory to ensure that maximum benefit is derived from the available funds in terms of mission and material readiness. Total requirements are consolidated from requirements identified by each of the departments. Dollars are allocated to departments only after a detailed budget is submitted and approved by the commanding officer.

An annual plan is developed by first taking into account the principal evolutions scheduled for the year. Once the plan has been formulated, the departmental budget system is the mechanism used to monitor the execution of the plan. Department heads must report and justify major deviations from the plan in order for the plan to remain current and remain a viable management and control mechanism. In this regard, timely information from the supply officer is needed to permit proper monitoring.

2. Financial Management Plan Procedures

The following procedures are used in developing a financial management plan. Initial resources are determined, which includes identifying the nature, amount, and timing of the funding for the year. Any restrictions or special purposes which would limit the use of each category of funds, e.g., the breakdown of OPTAR into "Repair Parts" and "Other" fund codes are determined.

Next, major schedule milestones are identified and the estimated costs associated with these events are determined. Major events and inspections which would impact on funding include but are not restricted to deployment, major fleet exercises, ROH, refresher training (REFTRA), programmed restricted availability (PRAV), Board of inspection and survey (INSURV), light off exam (LOE), operational propulsion plant exam (OPPE), nuclear weapons acceptance inspection (NWAI), combat system readiness test (CSRT), and command inspections. Determining the estimated costs associated with these events, and the time frame in which the funds will be required, is essential in the development of a sound financial plan since augment requests will usually not be granted in support of evolutions which were scheduled in the ship's operating schedule in sufficient time to be considered in the financial planning process.

Within the total expected funding, and based on the past four to six quarters' historical data, with similar periods appropriately weighted, the supply officer assigns tentative funding targets to the departments. In addition to the tentative funding target, an increment and decrement are assigned, representing alternative funding levels above and below the tentative target, respectively. An increment of 10% for possible enhanced funding and a decrement of 15% for a possible funding cut are suggested. Separate targets may be provided for each category of funds granted in the basic OPTAR (RP/OTHER), depending on the command's funding policy. The supply officer then issues a departmental budget call.

In response to the budget call department heads and their subordinates determine and itemize all their requirements, considering the nature and purpose of funds and other special guidance in the budget call, historical data, top ten critical equipments, PMS schedule, special programs, etc. The requirements lists may include "nice to have" items as well as essential supplies. Once requirements have been identified, associated prices are determined or estimated. Requirements are prioritized, although the same requirements may be split and different priorities assigned to each segment (e.g., 20 Oxygen Breathing Apparatus are budgeted; 10 are required immediately, 5 more are needed but not urgently, the last 5 are nice-to-have).

Once the total requirements have been determined, each requirement is matched to the quarter in which procurement is desired. Some items are required each quarter in uniform increments throughout the year, e.g., PMS material, cleaning gear, etc. Some are required at a specific time, e.g., office equipment rental at the beginning of the year, pre-deployment preparation, etc. Some may not be particularly time-sensitive, e.g., habitability upgrade, typewriter replacement, etc. The requirements list indicates priority, requirement description, quantity, requirement quarterly cost, total cost, and cumulative costs. The cumulative cost is useful to identify the point at which requirements equal the target and decrement/increment levels. For those requirements in excess of the decrement level, justification for the items and impact if not funded are required. This information is very important for ship wide prioritization. Ranking must be realistic, i.e., high priority items should not be placed below the assigned target as an unfunded material requirement in an attempt to obtain additional funds. Prioritization and ranking enables the plan to remain executable in the event additional funds become available or funds reduced.

Upon receipt of the department head's response to the budget call, the supply officer reviews the requirements, screens out those which may be obtained from alternate funding sources (Intermediate Maintenance Activity Funds, OPN Funds) and prepares a consolidated list of requirements for review and approval by the ship's budget council. The council is comprised of the executive officer, department heads, and command advisors (Command Master Chief, 3M Coordinator). During this review process an analysis takes place to identify the departmental requirement which, if funded next, will provide the greatest benefit toward mission readiness. The review process is likely to involve several meetings and take considerable time, although a sound financial plan will avert future crisis management. The final prioritized plan is then submitted to the commanding officer for review and approval.

Once the unit's total requirements are approved by the commanding officer, fund requirements are matched with the quarterly funding schedule. If adjustments are required, loan, augment, reprogramming, or recoupment requests are made as necessary.

Upon prioritization and approval of the time-phased requirements, the financial management plan is promulgated for execution. A copy of the financial management plan, in the format shown in Table I, is forwarded to COMNAVSURFPAC and the appropriate ISIC. It is monitored principally on board the ship at the department head level by means of a departmental budget report. Monthly departmental status reports are submitted to the commanding officer by the supply officer with major deviations from the approved plan justified and incorporated in the next update of the plan. In addition, a monthly Budget OPTAR Report (BOR), which breaks down OPTAR Funds into detailed cost categories that will be defined in Chapter IV, is submitted for review to the Authorized Accounting Activity (AAA), COMNAVSURFPAC and the ISIC.

TABLE I

USS NEVERSAIL (LRX-12) FY88 FINANCIAL MANAGEMENT PLAN

	1st Qtr		***2nd Qtr***		***3rd Qtr***		***4th Qtr***		****TOTAL****	
Department	R/P	OTH	R/P	OTH	R/P	OTH	R/P	OTH	R/P	OTH
Operations	$ 4,760	$6,700	$ 4,300	$5,600	$ 5,500	$6,200	$ 5,500	$5,900	$20,060	$24,400
Engineering	6,900	7,900	7,500	7,200	5,400	6,200	7,700	7,500	27,500	28,800
Medical	0	500	0	600	0	400	0	550	0	2,040
Admin	0	1,500	0	1,800	0	1,200	0	1,100	0	5,600
Deck	0	3,200	0	4,500	0	3,800	0	3,100	0	14,600
Supply	0	2,300	0	3,200	0	2,100	0	2,900	0	10,500
Stock	2,500	2,800	1,900	1,700	2,000	2,100	2,200	2,300	8,600	8,900
CO Reserve	1,500	2,500	1,500	2,500	1,500	2,500	1,500	2,500	6,000	10,000
DLR Fund	11,200	0	12,500	0	10,900	0	11,100	0	45,700	0
Habitability	0	3,800	0	3,800	0	3,800	0	3,800	0	15,200
Transportation	0	900	0	1,000	0	1,200	0	1,200	0	4,300
Office Machines	0	5,800	0	0	0	0	0	900	0	6,700
TOTAL	$26,860	37,900	27,700	31,900	25,300	29,500	28,000	31,740	107,860	131,040

III. OVERVIEW OF FORECASTING METHODS

A. MODELS FOR FORECASTING THE ENVIRONMENT

Forecasts are the premises for planning. They allow managers to make rational decisions between alternatives based on some idea of future outcomes or needs. Forecasts are necessary; without them individuals or organizations will make non-optimal choices.

Naval officers are not exempt from the need for forecasts to perform their jobs. OPTAR allocation is just one area where forecasting models can allow for more efficient use of resources. Personnel manning and pay are other fields where forecasts are required. The following sections briefly describe the concepts of forecasting.

1. Judgmental verses Mathematical Forecasts

Forecasting can be broken down into two major categories depending upon the source of data. The areas are judgmental (sometimes called qualitative) and mathematical (sometimes referred to as quantitative).

Judgmental forecasting is appropriate when hard data is scarce or difficult to use (Stoner, 1986). For instance, when a new weapon system or technology is introduced, past experience is not a reliable guide for estimating what the near term effects will be. Subjective judgments or rating schemes are created to transform data into numerical estimates. Examples of judgmental forecasting include managerial consensus, personal intuition, and the Delphi technique.

Mathematical forecasting extrapolates from the past, or is used when there is sufficient "hard", or statistical data, to specify relationships between key variables (Stoner, 1986). Statistical models, such as time-series regression, use past or current trends to project future events. Personnel requirements of the past several years, for example, could be used to establish future recruiting requirements. Causal models are used where data exists for a number of related variables and where relationships between the variables can be clearly expressed. The use of computers has lowered the costs to the point where mathematical forecasting is common-place for most companies.

Mathematical forecasts are considered more accurate than judgmental forecast by most studies (Stoner, 1986). However, mathematical forecasts can only be formulated if numerical or statistical data is available. Judgmental forecasting does not demand numerical or statistical data in the same manner as mathematical forecasting. Inputs to judgmental forecasts are based on accumulated knowledge, judgment and intuitive thinking. Specialist or experts are the source of this information.

2. Steps to Forecasting

The forecasting process, needed to anticipate future conditions in a changing environment, can be described in three formal steps. They are the selection of proper dimensions, determination of a relevant scale for each dimension, and estimation of a single point or probability distribution upon the scale. (Hosmer, 1982)

The first step in forecasting involves the selection of the proper dimensions. That is to select the critical environmental dimensions that can have a major impact on the desired dependent output (the desired forecasted number or event). These elements are called the independent variables. Not all elements in an organization's environment have equal impact on the future. Independent variables are those elements that have significant influence (correlation) on the outcome of future events. Major errors can be caused by not recognizing these variables. An illustration of this point is how Winnebago failed to consider the effects of gas prices on their product when they established production facility planning in 1972. They did not consider all of the possible independent variables and, by 1974, when prices started to escalate, they were stuck with a severe over supply of capacity. Not all characteristics and trends are important but consideration must be taken early to locate those with impact or the forecast will be flawed.

Determining the relevant scale for each dimension is the second step. This means creating a continuous scale that can be used to measure each of the selected dimensions. Some trends are easy to measure in physical or financial terms; gross national product, personnel retention, and net personal income are obvious examples. However, not all factors are easily found, such as productivity, energy prices, or stability of an allies' government. If a measure can be established, at least some idea of expected outcomes can be formulated.

Estimation of a single point, or probability distribution, upon a scale is the last step. Forecasting methods try to create a single point, or distribution of points, as an output. To accomplish this goal, the first two steps must identify the independent variables and place them on some scale for comparison. Most forecasting methods do not assist in recognizing the importance of a trend or future event, nor in developing means of measuring change over time or events leading to a future event. They do help in estimating future occurrences. The forecasting method takes the input of the first two steps and creates an estimation, or distribution, of outcomes.

The three steps are fundamental to any forecasting process: the independent variables are defined, a scale for each variable is created to consider the range of its inputs, and a method or formula combines the first two steps into an estimation of an outcome. Terminology and methodology may change, but the logic process is similar in all forecasting processes.

3. Forecasting Methods

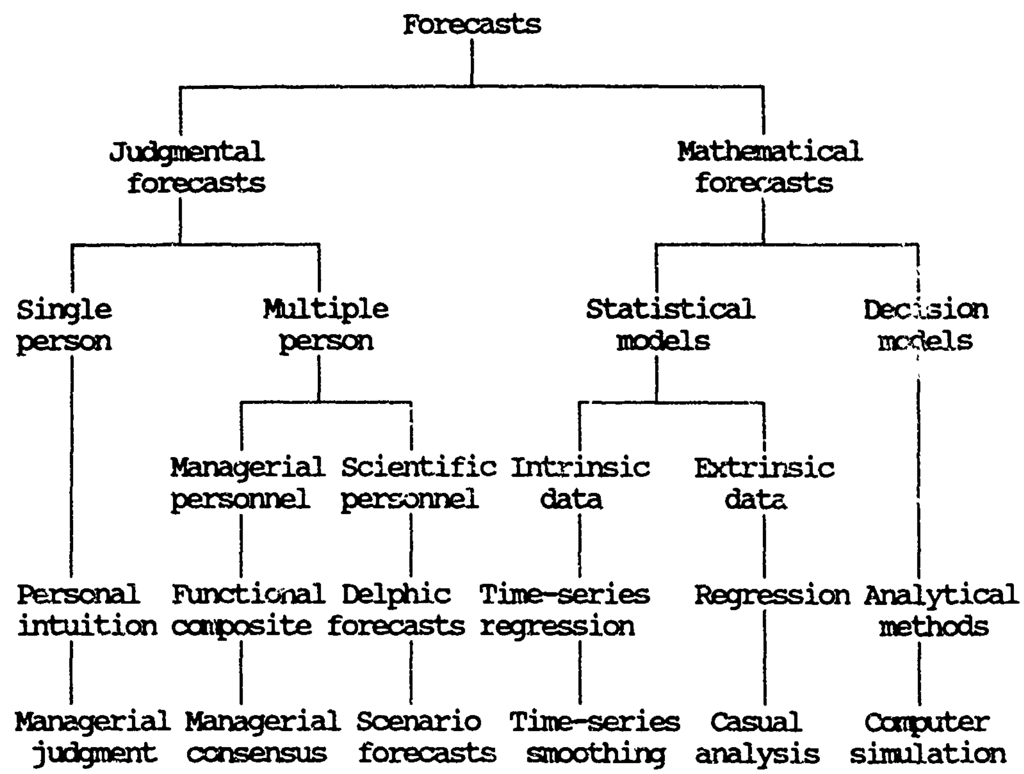
Forecasting methods fall, depending on the source of information, into two major groups; judgmental and mathematical. Each group can be further divided into classes, single person vs. multiple person for the judgmental, and decision models vs. statistical models for the mathematical, with the relationships shown in Table II. (Hosmer, 1982) The following is a review of these alternative forecasting methods.

Personal intuition is the most common forecasting technique for most managers. It is not based on scientific facts or logic, but this does not make it necessarily a less accurate method (Hosmer, 1982). Personal intuition is a statement of feeling of what one thinks will happen. Intuition is subjective, and not necessarily based on facts. It can be imaginative, and provide a visionary anticipation of future conditions.

Managerial judgment is personal intuition carried beyond a purely subjective vision of the future and includes historical trends, related events, the environment of the organization, and projections of future conditions. The judgement goes beyond the "I think X will occur" and becomes "I think X will occur because ...." This is the method of

TABLE II

FORECASTING METHODS



experienced people in positions where of events seem to happen repeatedly. The manager knows what to expect because he understands the surrounding dimensions and how they interact. Mathematical sources of data may or may not exist to support the manager but he still feels his projection is correct. Personal biases may erode the accuracy and introduce error if not recognized by the person. Having more than one person becomes in-effect an effort to unbias the data. This method is not "a shot from the hip" but a more reasoned solution to create outcomes where no "hard" data exists.

Functional composites are a multiple-person forecasting method that represents the combined opinions of the members of a functional or technical subgroup within an organization. For example, it could consist of a group of engineering chiefs or department heads on a ship (Hosmer, 1982). Their opinions are usually expressed in response to structured questions on technological feasibility, related problems on a ship, or to create a consensus opinion on an issue. The range of outcomes will have some dispersion but a forecast or estimate can be formulated. This process eliminates any personal bias but not structural or system biases that may be common amongst the participants. Short term forecast can be generated that are very accurate but the accuracy is only as good as the combined knowledge of the individuals in the group. Other group forecasting methods have been developed to eliminate this fallacy, while still using the advantages that multiple opinions can offer.

Managerial consensus is a multiple-person forecasting method that represents the combined opinions of the members of a number of functional and technical subgroups within an organization (Hosmer, 1982). Representatives from surface, air, and submarine forces can be combined in a group staff and asked to agree on a forecast for the organization. By taking past department level officers, a diverse pool of specialized technical and managerial skills can be created. Discussions may or may not be organized, although the dimension of scale for the forecast must be defined. The advantages of managerial consensus include a range of view points can be considered, individual biases are minimized, and structural bias may be minimized due to the diversity of the group. It suffers from the personal dynamics of a large meeting because one person, or one group, could dominate the discussion and obstruct a meaningful consensus.

The Delphi method was designed to remedy problems of interfactional disputes that may arise in consensus forecasts. A group of experts are polled individually to create a list of questions or statements. This list is resubmitted to the same group and each member places the outcomes on some dimension scale. The scales are statistically compared to create some form of "hard" data for a forecast (Stoner, 1986). The process tries to utilize the advantages of combined opinion, while eliminating the disturbances of a person or subgroup in the formation of a consensus. The Delphi method has been used to forecast technological feasibility, and sociopolitical events where data is not available or misleading (Hosmer, 1986).

The scenario method builds a logical, hypothetical, description of events. In constructing the scenario its creators explore the details and dynamics of alternative events, rather than only isolated specific elements of change (Stoner, 1986). The method forces the creators to consider a wide range of alternatives, and limits the conservatism that may be inherent in other methods. The wide scope of considerations detracts from the precision and the reliability of the final estimate (Hosmer, 1982). The method is widely used in the defense field where theories are hard to prove or validate except by actual combat. The Navy uses this method to formulate alternatives in warfare planning, operations, and employment.

Mathematical methods can be separated into two categories; decision models and statistical models. Decision models are used to predict dependant variables where the independent variables are controlled by an organization's policies and decisions. Statistical models generate a prediction of a dependant variable based upon either the historical values of that variable (intrinsic models), or on the historical values of related variables (extrinsic models). (Hosmer, 1982)

The functional model may be linear (straight), logarithmic (curved), or trigonometric (cyclical), and may be developed either visually, on graph paper, or analytically by the "least-squares" method. The computer has reduced the time and cost of this method to the point where it is common place among businesses. The least-squares method assumes a linear relationship, and a line is fitted to minimize the sum of the squares of the errors between the line and historical data points (Hosmer, 1982). The simple form of the linear regression model can be stated as follows: (Neter, 1974)

$$Y = A + B * X$$

where:

Y is tne dependent variable in units of quantity
A is a constant and the Y intercept on a cartesian plane
B is the slope of a line equal to delta Y/ delta X
X is the independent variable in units of time.

The coefficient of correlation (R) explains the relative importance of the association between Y and X. The range of R is from -1 to +1. Negative one (-1) means a perfect negative relationship between the two variables; in other words, as X goes up, Y goes down, unit for unit, and vice versa. Positive one (+1) means a perfect positive relationship between the two variables; in other words, as X goes up, Y goes up, unit for unit, and vice versa. Zero means no relationship exists between y and x (Neter, 1974). The larger the absolute value of R, the better the regression equation forecasts accurate values of Y.

The coefficient of determination (R^2) is the square of the coefficient of correlation. This modification allows us to shift from subjective measures of relationship between X and Y to a specific measure, the percent of variation in Y that is explained by X. (Gaither, 1987)

Time-series regression is an intrinsic statistical forecasting method. A functional relationship between a dependent variable and time is expressed by a mathematical formula derived from historical values. Regression techniques can be used to create this relationship. Time-series may be regarded as having four separate (but not necessarily separable) groups of forces. The first is the <u>long term trend</u> of the change in the dependent variable with respect to time such as the effect of inflation on prices over a decade. If the value of the variable increases and decreases according to the season of the year, the time-series is said to have a <u>seasonal pattern</u>, for example the price of lettuce during a year. A <u>cyclical</u> fluctuation has a time period that is measured in years, like the funding levels of the Navy. The last force is <u>random variation</u>. A simple formula can be expressed as follows:

$$Y = T * S * C * R$$

where:

Y is the dependent variable
T is the long term trend
S is the seasonal pattern
C is the cyclical oscillations
R is the random variation.

Time-series averaging is an intrinsic forecasting method. It is similar to time-series regression by creating a functional relationship based on historical times series data, yet assigns greater weight to the more recent data points. Moving averages and exponential smoothing are the two primary models for this method. A moving average is simply the numerical mean of the last n data points. A simple formula can be given as follows:

$$\text{Forecast} = \frac{X_1 + X_2 + \ldots + X_n}{n}$$

Exponential smoothing takes the forecast for the last period and adds an error term to get the forecast for the next period (Gaither, 1987). The error term is computed by multiplying the forecast error in the last period by a constant. The constant alpha (a) is called the smoothing constant. The model's format is as follows:

$$\text{Forecast} = a * X_t + (1 - a)^1 * X_{t-1} + (1 - a)^n * X_{t-n}$$

Regression is an extrinsic statistical forecasting method, similar to times-series regression in the format and methods of computing (Hosmer, 1982). Using a computer is almost the only way to calculate the equation due to the extensive computations. The introduction of multiple independent variables enables the researcher to better explain the relationship in question. Problems arise from exogenous variables that have apparent rather than an actual relationship with the dependent variable. The relationship of the rise in stock prices and the National Football Conference winning the Superbowl is an example of apparent relationship with no causal connection. It should be cautioned that the introduction of excessive numbers of independent variables will increase the coefficient of determination but at a decreasing marginal rate. The larger number of variables will explain more variation in Y but the percent of remaining unexplained variation will decrease. This leaves a smaller percent of variation to be explained by the new variable to be introduced, causing a decreasing marginal benefit. This method has great potential for areas where many factors influence a prediction.

Casual analysis is the application of multiple regression to complex open system problems. For example, it may be used to represent the interactions between Navy compensation and retention. Independent variables represent different environmental factors that impact the dependent variable. In the example, the amount of inflation, health care, and threats of changes in retirement pay are some of the independent variables. The dependent variable would be the percent or number of reenlistments. The advantage of this model is that multiple independent variables can be introduced into the system of equations, and forecasts can be developed indirectly by sensitivity analysis rather than directly by extrapolation (Hosmer, 1982). The method combines the use of historical data, and related environmental circumstances of an organization to create a forecast.

Analytical methods are decision models used to study the relationships between controllable variables and the forecast variable to be predicted (Hosmer, 1982). The goal is to express relationships of the controllable inputs to the predictable outputs by using mathematical equations.

The equations can be formulated by logical or empirical methods.

Computer simulation provides a means by which an analyst can experiment in a representative problem area without having to deal directly with the real-world system itself (Stoner, 1976). It has become a tool available for designers to test prototypes prior to construction. Simulations are not limited to construction such as structural analysis packages for civil and mechanical engineering but include financial and production systems. Cost savings can be derived through careful use and execution. This method is expanding daily since more powerful personal computers have become available.

Forecasting methods can usually fit into the categories outlined. These brief descriptions will allow a basic understanding for the choice of method used in the data analysis chapter.

B. SELECTION OF FORECASTING MODEL FOR OPTAR ALLOCATION

In the current OPTAR allocation process a forecasting model is not used. Instead, a base budget plus yearly incremental system is used. Regression analysis is best adapted to the Navy's requirements and data for use as a forecasting system. The following will describe how this model was chosen.

1. Steps to a Forecasting Method

The forecasting process must develop a method for OPTAR allocation. The dimensions of the model must be selected and placed on a scale. Finally, the desired output must be determined.

The relevant dimensions (independent variables) of the forecast are the factors that have the highest impact on the estimate. The monetary requirements of a ship should be effected by the type of employment and the amount of time at sea. A prior study (Williams, 1987) found this relationship but did not construct a forecasting model. This thesis expands the employment categories for consideration and considers the effects of combining the dimensions to improve the significance of the relationship. This procedure is necessary for statistical analysis, since the relevant dimensions of OPTAR allocation and expenditure includes considerations for political environment and national security.

The scale of the dimensions must be relevant for the situation modeled and for use in regression. Ship employment represents the actual use of a ship's time, therefore some unit of time should be used for the scale. A common unit of time for several employment categories is months, e.g., a six month deployment, three month SRA, a month long leave and upkeep period following a deployment, a month long upkeep prior to and after overhaul, or nine month overhaul. Therefore, percent of time measured by fractions of months will be used for employment categories where months are most appropriate. The other common unit of time for employment is the numerical number of days in a period, e.g., thirty days at sea and a twenty day up keep. Therefore, days will be used as the scale for these two employment category examples.

The last step of the forecasting process is to determine the desired output. To create a forecast value of fund codes for use in allocating OPTAR grants is the stated objective of this thesis. These three basic steps will be the basis for the formulation of a forecasting model's dependent and independent variables. For analysis, the independent variables will be derived from historical employment schedules and the dependent variables from concurrent Budget OPTAR Reports of 1985 and 1986.

2. Basis of Selection of a Model

Several factors were considered when selecting the casual method of forecasting. The key ones were data availability and the time span of the forecast.

BORs are stored for two years. This limited the size of the historical data base. To obtain an extra year of data the previous thesis's FY85 and FY86 data were used in combination with FY87. The size and type of the data bank are large enough to accommodate the use of statistical methods.

The time frame of the thesis permits us to conduct an in depth analysis using a variety of methods. No single method is excluded from our consideration. Our selection of regression analysis was based on the feasibility mentioned earlier and its ability to provide the needed numerical forecasts for use by COMNAVSURFPAC.

3. Selection of Model Type

The data is from historical sources that are effected by related variables (employment categories and sea time). This supports the use of a statistically model with extrinsic data. Some form of multiple regression is best suited for these criteria.

The key is the type of data available for analysis. Budget OPTAR Reports provide numerical values that can be statistically examined. This allows for a mathematical approach in the creation of a model vice a judgmental forecast.

Multiple regression techniques will be used to create an equation. The estimated value of costs derived from this equation will be compared to actual FY87 obligation rates. In addition, various comparison techniques will be used to verify the accuracy of the model.

IV. DATA COLLECTION

A. SELECTION OF SHIP CLASSES TO BE EXAMINED

Two classes of ship were selected for the study in this thesis, the BELKNAP class cruiser and the KNOX class frigate. The BELKNAP (CG-26) class cruiser is a large, sophisticated, and relatively complex steam powered warship equipped with Standard Surface-to-Air missiles, Harpoon Surface-to-Surface missiles, guns, and various Anti-Submarine Warfare (ASW) weapons. They are also fitted with Navy Tactical Data System (NTDS) data link capabilities, that allows them to interface well with an Aircraft Carrier Battle Group. Their primary mission is to operate in an Anti-Air Warfare (AAW) role in support of an Aircraft Carrier Battle Group.

The KNOX (FF-1052) class frigate is a relatively small steam powered warship equipped with a single five inch gun, Harpoon Surface-to-Surface missiles, Close-in Weapon System (CIWS), and various ASW weapons and sensors. They are not configured with any data link capability, and therefore do not interface with an Aircraft Carrier Battle Group as well as the cruisers. When they are operating in support of a Aircraft Carrier Battle Group, they are normally employed in an ASW role. They are assigned a screening station around the carrier for the purpose of detecting and prosecuting enemy submarine contacts. Their designed primary mission is anti-submarine escort for convoy operations.

B. SPECIFIC SHIPS CHOSEN FOR STUDY

There are five BELKNAP class cruisers assigned to the Pacific Fleet. All five were used for this study. Table III lists the pertinent data for the five cruisers studied.

TABLE III

SHIPS' GENERAL INFORMATION
CRUISERS

Ship Name	Hull Number	Homeport	Unit Identification CODE
USS JOUETT	CG-29	San Diego	52704
USS HORNE	CG-30	San Diego	52705
USS STERETT	CG-31	Subic Bay	52706
USS W.H. STANDLEY	CG-32	San Diego	52707
USS FOX	CG-33	San Diego	52708

There are over 20 KNOX class frigates assigned to the Pacific fleet. Ten of these were selected to be examined. Six of these frigates were randomly selected for the study and four were specifically selected. Four of the ships are homeported in Yokosuka, Japan and included in the sample in order to collect data relating to whether overseas home-porting has any effect on ship operating and maintenance costs. Table IV contains a listing of the KNOX class frigates studied, along with pertinent data.

TABLE IV

SHIPS' GENERAL INFORMATION
FRIGATES

Ship Name	Hull Number	Homeport	Unit Identification CODE
USS KNOX	FF-1052	Yokosuka	54047
USS WHIPPLE	FF-1062	Pearl Harbor	54057
USS LOCKWOOD	FF-1064	Yokosuka	54059
USS STEIN	FF-1065	San Diego	54060
USS F. HAMMOND	FF-1067	Yokosuka	54062
USS DOWNES	FF-1070	San Diego	54065
USS BADGER	FF-1071	Pearl Harbor	54066
USS FANNING	FF-1076	San Diego	54071
USS COOK	FF-1083	San Diego	20054
USS KIRK	FF-1087	Yokosuka	20058

C. OPTAR FUND CODES

The assignment of an OPTAR grant constitutes authority to incur obligations for the operation and maintenance of the unit for which the funds are granted. For the most part, these obligations will be in the categories of equipment maintenance, facilities maintenance, consumables, equipage, and services. The determination and classification of OPTAR charges requires some amplification. (COMNAVSURFPAC Instruction 4400.1F)

As mentioned earlier, for budgeting purposes OPTAR's for fleet units are comprised of two distinct parts, "Repair Parts" and "Other". "Repair Parts" funds organization level equipment maintenance. "Other" funds facilities maintenance, consumables, equipage, and services. For reporting purposes OPTARs are broken down into detailed cost categories. For example, all equipment maintenance repair parts are proper charges to fund code NR or NB. For the complete list of fund codes applicable to SURFPAC units refer to Appendix A.

The OPTAR obligation information for each ship in the study is contained in Appendix B to this thesis. This appendix lists each ship's OPTAR obligation for each month of the two fiscal years studied by individual fund code.

D. EMPLOYMENT SCHEDULES

Employment schedules (EMPSKD's) are prepared and promulgated on a quarterly basis. They provide detailed information on the utilization and status of naval forces for planning, control, and for historical record purposes. In order to put the scheduling and OPTAR information in a format suitable for analysis, some conversion of the schedule data was necessary.

The conversion was done by identifying the seven most common ship employment categories, and then analyzing each ship's schedule to determine the percent of each month each category covers. The seven employment categories used in this analysis are described in Table V.

TABLE V

SEVEN EMPLOYMENT CATEGORIES

Code	Explanation/Remarks
SRA	Selected restricted availability
DEPL	Deployed
POM	Prepares for Overseas Movement
1MBAOH	One Month Before/After Overhaul
LOPS	Local Operations
1MADP	One Month After Deployment
OVHL	Overhaul

The converted ship scheduling information for each ship in the study is contained in Appendix C to this thesis. The appendix lists each ship's employment category for each month in both fiscal years studied. During the DEPL, POM, 1MBAOH, LOPS, and 1MADP employment categories a ship could be underway or inport for upkeep at different times within the same category. For example, a ship could be underway for part of a single deployment and inport for upkeep during another part of the same deployment. A different OPTAR obligation rate would be experienced by a ship that is deployed and underway compared to a ship that is deployed and inport for upkeep. For this reason, the appendix also lists the total number of days each ship was underway and the total number of days each ship was inport for upkeep during the month (under the columns headed "U/W" and "UPK", respectively).

Having collected the necessary data and converted it into a format suitable for analysis, the next step was to conduct a statistical analysis of the data. The analysis attempts to determine if a pattern exists between the OPTAR obligation rates and employment schedule and what factors influence the pattern.

V. ANALYSIS OF DATA

A. DATA SETS FOR EXAMINATION

1. Original Data

As stated in Chapter III, multiple regression techniques were applied to create forecast models for OPTAR allocation. The independent variables were employment codes derived from Fiscal Year 1985 and 1986 employment schedules and the dependent variables were cost codes from concurrent BORs. In the initial analysis a regression model was constructed for each cost code category. Additionally, models were constructed for the combinations of NB+NR, OTHER (which included the sum of all the cost codes except NB and NR), and ALL (which is the sum of all the individual cost codes) were examined. These regressions were constructed using what we term our "Original" data set. This data set uses the employment codes previously outlined in Chapter IV.

2. Alternative Data Sets

Next we created a collection of alternative data set by altering the employment code data in several ways. First we determined the impact of changing the time period for the observation of the nine original employment categories. The original employment categories use one month for a POM period. Discussions with COMNAVSURFPAC's comptroller revealed two months may be a more reasonable time period.

Regression analysis was repeated using this new time frame. The change to a two-month POM affects two employment categories, POM and LOPS. Appendix C reflects the change by presenting columns POM2M and LOPS2M which replace POM and LOPS to create a new set of employment categories.

Second, an alternative definition was created to modify a foreign homeported ship's definition of deployed and local operations. The definitions of deployed and local operations are common throughout the Navy. The official status of ships homeported in Japan and the Philippines coincides with this definition. It costs a certain amount of money to run a ship homeported in a foreign homeport. This amount differs from the amount it takes to run a ship homeported in the United States. Since this amount is closer to a United States homeported ship that is deployed overseas the modified definition of deployed for foreign homeported ships is that they are in local operations when in homeport and deployed at any other time. This alternative definition to the employment schedule data can be seen in the addition of columns POMF (POM with the foreign homeport ships having zero values), DEPLF (deployment data with the alternative definition for foreign homeported ships), 1MADPF (1MADF with the foreign homeport ships having zero values), and LOPSF (local operations using the alternative definition of foreign homeport ships). These new categories replace POM, DEPL, 1MADP, and LOPS to create a second set of employment categories.

Another set of employment schedule data was created by combining the alternative definition of deployment for foreign homeported ships and a two month POM period. The new combination creates two additional categories, POM2MF (POM2M with values for foreign homeported ships zeroed) and LOPS2MF (LOPS2M with the change in definition of deployment for the foreign homeported ships). In this set of employment categories POM, DEPL, 1MADP, and LOPS are replaced with POM2MF, DEPLF, 1MADPF, and LOPS2MF.

The next step in the analysis of the data determined the significance of removing negative data points from the cost code data. Negative numbers resulted from adjustments to the current months data stemming from obligations estimated in prior months. Cost code obligation data is based on initial cost estimates. Subsequently, when bills are received it is possible for the actual cost to be different from the initial estimate. During the current month all differences are corrected with adjusting entries to the current months BOR's cost code value. The month an adjustment stems from is not identified. Therefore, it is impossible to adjust the obligation data for proper analysis. This could skew the data, therefore, regressions are performed using the employment categories outlined in Chapter IV with and without negative values for cost code data to check the significance of this effect. Regressions for each cost code (dependent variable) were then constructed using each of the modified data sets.

3. Deletion of Selected Months

The analysis to this point assumes money is spent on a constant rate with no seasonal fluctuations. The next step in the analysis determined the effects of seasonal spending patterns. OPTAR is granted for a full fiscal year. This creates a monetary surplus or deficiency for a ship at the end of a fiscal year. The months effected the most are the first and last month of the fiscal year. A ship with a surplus will spend all of its money in the last month of the fiscal year or lose the opportunity. A ship with a deficiency must delay purchases to the first month of the next fiscal year. To determine the impact of this phenomenon regressions were run on all the categories to this point using three combinations of deletions; without the first month of the fiscal year, without the last month of the fiscal year, and without the first and last months of the fiscal year. The negative values of cost code data were again deleted for comparison.

The modifications in the above three sections result in 32 separate regression models per cost code. We used the coefficient of determination (R^2) as a summary indicator of how well individual models explained the cost codes. By viewing the R^2 we could gain some overall insight into the effect of using the various alternative data sets. The results of the R^2 for the various regressions are tabulated in Appendix D.

B. SIGNIFICANCE OF DATA SETS

1. Belknap (CG-26) Class Cruisers

The explanatory power of the different data sets varied between each individual code. Some increases in R^2 resulted, but for the most part the use of the alternate data sets lowered the value relative to use of the "original" data set. Removing the negative data points from the cost code data reduced R^2 for ten cost codes and increased it for six. There was also a negative impact on the results when the POM period was extended to two months. This change caused the R^2 for fourteen cost codes to get worse while only two improved. Modifying the definition of deployed for foreign homeported ships reduced R^2 for eleven cost codes and improved the results in five. The combination of the modified deployment definition for foreign homeported ships and the extended POM also yielded poor results. This change resulted in the R^2 for fifteen cost codes to be reduced while only one showed an improvement. After the last month of each fiscal year was removed the R^2 for ten cost codes got worse and six improved.

Removing the first month of each fiscal year and removing the first and last month of each fiscal year proved to be the only changes that consistently improved the results. Removing the first month resulted in thirteen out of sixteen improved R^2 for cost codes. Removing the combination of the first and last months improved eleven cost code R^2 while degrading only five.

2. Knox (FF-1052) Class Frigates

The impact of the different data sets again varied between each individual code, but for the most part the implementation of the different data sets improved the results. Every modification with the exception of extending the POM period to two months affected improvements in the explanatory power of the models. The POM extension improved the R^2 for eight cost codes and degraded eight cost codes.

The remaining modifications each improved the results to a different degree. Removing the negative numbers had the most significant effect. This change caused the improvement in the R^2 value for fourteen cost codes and degraded just two. Redefining the deployment period for the foreign homeported ships had the second greatest impact on the results. This change improved the R^2 for eleven cost codes while degrading only five. Removing the first month of each fiscal year had the next greatest impact as did removing the last month of each fiscal year. These two modifications each improved the R^2 for ten cost codes and degraded six. Removing the combination of the first and last month of each fiscal year caused the improvement in nine cost code R^2 while degrading seven. The results were identical when the POM period was extended in combination with the new definition for deployment for foreign homeported ships.

3. Discussion of Data Set Analysis

The different data sets had a considerable impact on the results obtained in the analysis of the Frigates yet made little impact on the results obtained for the Cruisers. Possible explanations for the results are discussed below.

First of all, there was a difference in the impact that removing the negative numbers, extending the POM period, and removing the last month of the fiscal year had on the results. All three of these modifications made an impact on the results obtained on the frigates and did not on the cruisers. This phenomenon may be explained by the difference between the two classes of ships studied with respect to the experience levels of the supply officers assigned to the ships. The cruisers are normally assigned a more senior supply officer than the frigates.

As previously discussed, negative numbers in the data are a result of adjustments being made on the BORs figures. The extra experience of the cruiser supply officer would translate to fewer adjusting entries. This would directly relate to the impact negative numbers would have on the results. There would be fewer negative numbers in the cruiser data than that of the frigates.

There would also be a correlation between experience and the time required to prepare for an overseas movement. The less experienced supply officer would require more time to prepare. The frigates would have the less experienced supply officers and would require more time to prepare for an overseas movement. This directly relates to the impact that extending the POM period would have on the results. This modification would affect the frigate data to a larger extent than it would the cruiser data, and therefore the results obtained.

The same logic could be extended to the impact that removing the last month of the fiscal year had on the results. The more experienced cruiser supply officers would normally be better budgeteers. They would not find the last month of the fiscal year to be as important due to their increased budgeting capabilities. On the other hand, the less experienced frigate supply officer would find the last month of the fiscal year to hold many deficits and/or surpluses that had to be dealt with. This would tend to make removing the last month of each fiscal year impact to a much greater degree on the frigate data than on the cruiser data.

There was also a difference in the impact that modifying the definition of deployed for foreign homeported ships had on the results. Again, this change had an impact on the results obtained for the frigates and not for the results obtained for the cruisers. It may well be that since there are four out of ten frigates homeported overseas and only one out of the five cruisers homeported overseas that this difference developed. This fact combined with the above reasoning would also explain the different impact that the foreign homeported ship definition, in conjunction with an extended POM period, had on the results obtained. As before, making this change had an impact on the results obtained on the frigates but not on those of the cruisers.

C. SELECTION AND REFINEMENT OF INDIVIDUAL FUND CODE

As discussed above, the analysis of the OPTAR obligation data and employment schedule data was performed using regression analysis. Thirty two separate regressions, one for each of the various possible data sets, were constructed for each dependent variable (i.e., the individual cost codes). From these 32 regressions we selected the single regression model, one for each cost code, having the highest R^2.

The equation with the highest R^2 in each OPTAR fund code was used as the starting model for further regression analysis and refinement. We refined the models in two ways. First by discarding data points with extreme (outlier) values, and second by deleting independent variables that had little explanatory significance. More specifically, any data points with a standardized residual value of 2.50 or greater were removed. Employment categories with a t-ratio below 2.00 were also removed until the adjusted coefficient of determination decreased. Appendix E contains the output resulting from the final monthly model for each fund code.

D. SELECTION OF A SUCCESSFUL FORECASTING METHOD

The creation of a model is just the start of the forecasting process. If the data is available, a comparison of the predicted values estimated from the model and actual values should be done to evaluate the accuracy of the model. The following sections briefly describe the techniques used for comparison and the results of a comparison of values predicted from the models created from FY85 and FY86 data with FY87 actual values.

1. Evaluation Criteria Techniques

The objective of a forecasting model is to produce estimates of future values. Each model will produce a different estimate. The question is which model gives the best estimated forecast with actual data. Three major evaluation measures are widely used: algebraic sum of the errors, mean absolute deviation (MAD), and mean absolute percent deviation. These performance methods can be used on any model. The lower the value of error measure is, the greater the accuracy.

The algebraic sum of the errors is the simplest technique. The best model will have a sum of errors equal to zero. This means the high estimates are offset by the low estimates, when compared to actual values, to give a total of unexplained deviation. The sum of errors is computed with the formula below:

$$\text{Total} = \text{sum}^{n}{}_{i=1} \text{ (Forecast value}_i - \text{Actual value}_i)$$

In short-range forecasting, MAD is often used to measure how closely forecasts are matching the actual data. MAD is computed with the formula below: (Gaither, 1987)

$$\text{MAD} = \frac{\text{Sum of absolute deviations for n observations}}{n}$$

If MAD is large, the forecast values of the dependent variable that have been computed do not closely match the actual values. On the other hand, if MAD is small, the forecast values of the dependent variable closely follow the actual values. (Gaither, 1987)

Mean absolute percent deviation is similar to MAD. The difference is the deviation is divided by the actual value. This comparison technique is more understandable to laymen who prefer to think in percents. The following is the formula:

$$\begin{array}{l}\text{Mean Absolute} \\ \text{Percent Deviation}\end{array} = \frac{\text{sum } |\text{ (actual - estimate)/actual } |}{n}$$

These techniques allow a numerical verses intuition comparison. No technique can be used alone but the three can be used in combination to analyze the results. Although, due to the difference in dollar values of each cost code mean absolute percent deviation is used as the main criteria to analyze the accuracy of a model. This is because the mean absolute percent deviation scales the error measure for differences in the magnitude of the dollar values in the data.

2. Comparison Results

A comparison of the accuracy of the models outlined in part C of this chapter with FY87 data was completed. The results indicated the models to be fairly accurate and are tabulated in Appendix F.

Model predictions for the Belknap (CG-26) Class Cruisers had low values for the algebraic sum of the errors, MAD, and mean absolute percent deviation, and therefore their models were fairly accurate. Model accuracy for the individual cost codes varied from a low mean absolute percent deviation of 13 percent to a high of 940 percent. The accuracy improved as the dollar value of the cost code increased. The combination of cost codes gave highly accurate results. The NB+NR combination had a mean absolute percent deviation value of 5.6 percent and the ALL category had a value of 6.8 percent. The reason for the increased accuracy may be the decrease in significance of small errors. A smaller base will generate a higher percent error. For example, a $100 change when the base is $1000 is a 10% change, the same $100 change with a base of $10,000 is only a 1% change.

Model predictions for the Knox (FF-1052) Class Frigates had reasonable results, but not as good as those for the cruisers. The individual cost codes varied from a low mean absolute percent deviation of 13.3 percent to a high of 692 percent. The accuracy again improved as the dollar value increased. The combination of cost codes gave highly accurate results. The NB+NT combination had a mean absolute percent deviation value of 16 percent and the ALL category had a value of 18.3 percent.

In general, the comparisons proved the models to be accurate. The combination of cost codes increased the total dollar value and therefore decrease the significance of small errors. The accuracy of the combinations is highly significant considering the small size of the data base.

VI. SUMMARY AND CONCLUSIONS

This thesis began with a discussion of how the fiscal constraints of the Navy are increasing. At the same time, the Navy has to meet the same obligations with decreasing resources. The combination of these factors make the need for an efficient method of OPTAR allocation more necessary.

The current base plus incremental change method allocates OPTAR grants, but this may not be the most efficient method. For various reasons no attempt has been made to allocate OPTAR on the basis of when the ships are most likely to need increased funding. Intuition says employment effects the expenditure of funding. If a model could predict the demand for funding based on employment, budget personnel could improve the efficiency of the use of constrained resources.

The primary research question for this thesis was "How does a ship's operational schedule impact on costs and can trends be established in the system for use in management's effort in forecasting OPTAR execution?" This thesis focused on regression analysis of BORs and employment schedules to quantify the relationships and create a usable forecasting model to answer this question. The following sections summarize the findings of the analysis conducted and discusses the analysis itself, as well as offer some conclusions and recommends areas requiring further study.

A. SUMMARY OF FINDINGS

The study of data focused on attempting to quantify the relationships between spending and a ship's employment schedule, which were found in a prior thesis. Regression analysis was used to identify significant variables and create a forecasting model.

The analysis conducted determined the significance of negative cost code values caused by adjustments. Removing negative numbers from the data made no significant difference in the results obtained for the cruisers, however, the frigates were affected. This could be due to the relative seniority of the supply officers assigned to the two classes of ships. The cruisers are normally assigned a more senior, more experienced, supply officer than frigates.

The analysis also determined the significance of changes in the original time frame of employment categories. The cruisers were not affected by these changes. The frigates improved in all cases except the extension of the POM period to two months. This again could be due to the different experience levels of the supply officers between the two classes of ships.

Finally, the analysis determined the significance of the effect of fiscal year-end fluctuations. Of the different types of analysis made, this was the only one that improved the correlation for the cruisers, as well as, the frigates.

The best regression of each cost code was refined to create a final model. The manipulation removed outliers and insignificant employment variables. The results showed a marked improvement. The equations created are our models for forecasting. They quantify the relationships between spending and employment. Some of the coefficients of determinations are low but in totality they are significant enough to warrant the possible use of the model.

The final models were validated using FY87 employment schedules and BORs for comparison. The cruisers showed very good results. Combining cost codes minimized the effects of fluctuations for both classes of ships and presented the best forecast estimates. The models derived from the frigate data had poorer results than for the cruiser data, but was still fairly accurate.

B. DISCUSSION OF FINDINGS

The statistical analysis did identify patterns in the OPTAR obligation data that could be attributed to the ship's operational employment schedule. The relationships generated were quantified in a forecasting model.

Based on experience and intuition, the outcome from our analysis was expected. As a ship's operational pattern changes. the required maintenance should also change. The amount of other charges such as charter and hire or rental of passenger vehicles should have a relationship with the amount of time away from homeport. The regression analysis revealed these relationships.

A marked difference was noted between the two classes of ships. This phenomenon could be caused by several factors. The relative seniority of supply officers assigned to the two different classes of ship's being the most evident. Another possible factor is the age of the platforms. The cruisers tend to be older platforms with a greater archival data base. The base plus incremental change for these platforms would then be more accurate allowing tighter funding levels for the cruisers causing a closer pattern to actual need. Although any of these conclusions could not be proven statistically from the data set, they may be areas for further study.

The regression analysis did create a model that works and the accuracy should improve after the model is put in use. The model predicts the demand for funding based on employment schedules and improves the efficiency of the use of constrained resources. Comparisons between the estimated funding level for Fiscal Year 1987, based on the results of the model, and actual funding level is proof of the validity of the model. In addition, the use of combinations ease the burden and require less manipulation than the current OPTAR allocation procedures.

C. **AREAS REQUIRING FURTHER STUDY**

In addition to the above, there were several areas identified in the course of this study that could be pursued by additional work in the area of OPTAR obligation and operational employment. The following discusses the areas that warrant further research

First, and perhaps most importantly, the analysis should be extended to other classes of ships. The patterns of these two classes are not isolated. Regression analysis using the same approach to employment categories should be conducted on other classes. The use of only the combination of cost codes (NB+NR, other and all) could limit the time requirements of the study while providing quality results. This further study should provide for more efficient allocation methods throughout the fleet.

Another area of study is actual implementation of the models. This would allow further study prior to fleet wide use. The study would allow for further refinement and simplification.

The next area of study is repeating the study using actual expenditure data instead of OPTAR obligation data. This would eliminate adjustments and provide a better model. OPTAR obligation data is based on initial cost estimates and requires adjusting entries as actual costs are determined. If the actual cost data is utilized as the data base the requirement to make adjustments would be eliminated.

Another area for further study could be the impact of seniority and experience on the use of funds. As previously discussed, we suspected that the seniority of the supply officer assigned to the platform plays a key role in the results obtained. Further study as to the actual impact seniority and experience has might prove valuable.

Additional comparisons could be made using a naive model (the same amount as the previous year) or the current allocation method verses the actual FY87 data. This would allow a comparison of the models to some benchmark and give a basis for choosing a method.

Study of the effects of foreign homeporting should be conducted. The difference in employment patterns make these ships unique. In addition, the effects of different work ethics of shipyard workers in Japan and the Philippines may give a higher state of readiness than U. S. ships.

Finally, further study as to the validity of the research could be done with an update. 1987 data could be added to the data base and compared to 1988 results.

Appendix A

Fund Codes Applicable to SURFPAC Units

First Position Fund Code Assignments are:

702D	Active Forces Appropriation
701D	Reserve Forces Appropriation
70BD	Active Special Operations Forces Appropriation
70DD	Reserve Special Operations Forces Appropriation
704D	Active Sealift Prepositioning and Surge Appropriation

Fund Code Assignments are:

NA	Reimbursable Work
NB	Non-Aviation depot level repairables used in accomplishing organizational level maintenance in ships equipment and systems
NC	Navy Stock Account (NSA) consumable material (administration and housekeeping items, i.e., cleaning gear, general purpose supplies, paper, etc., procurement of general use decorative material for external and/or internal shipboard use on national holidays or other patriotic occasions, except seasonal or religious holiday events such as Easter, Thanksgiving, Christmas, and New Years)
ND	Rental or hire of a passenger vehicle (buses, water taxis, or ferries)
NE	NSA Equipment/Equipage (stop watches, life jackets, typewriters, calculators, and sextant) controlled equipage and equipage with a unit price $100 or greater. Equipage includes durable (life expectancy greater than one year) items, ice machines, laundry equipment, potato peelers, meat slicers, portable tools, etc.
NF	Civilian Personnel

NG	NSA consumables, ROH, Tenders and Repair ships only
NH	NSA repair parts, ROH, Tenders and Repair ships only
NJ	Automatic Data Processing (ADP) rental/service, TYCOM use only
NK	Charter and Hire (in non-Navy ports for tugs and barges, pilotage, wharfage and dockage, including docking and undocking, garbage and trash removal, cost of brows, including associated crane and forklift service, tolls for transit of seaways and canals, overseas agricultural and customs inspection charges, rental of portable sanitary facilities, interpreter services, diving services for installing/removing sea suction screens, husbanding agent fees)
NM	Temporary Additional Duty (TAD) Training (follow-on factory training by a contractor of DOD military and civilian personnel in the operation and maintenance of weapons systems and component equipment)
NN	TAD crew rotation/deployment
NP	Transportation of things
NQ	TAD Administrative travel (Temporary Shore Patrol, Emergency leave)
NR	Equipment Maintenance (Repair Parts) "Repair Part" refers to any item, including modules and consumable-type material, which has an equipment application. Material consumed in performing a maintenance action of an equipment or discrete ship's system, e.g., welding rods, acetylene, oxygen, bar stock, special purpose solvents, solder, etc. Material that remains an integral part of the equipment or the system when it is placed back in operation, including gases, fluids, and lubricants in sealed systems, e.g., dial illuminators, fuses, hydraulic fluid, freon, pipe insulation, and lagging material, packing, nuts, bolts, pipe, gasket material, etc. Specialized test equipment that is modular and remains an integral part of the equipment. Special tools defined as tools having a specific, unique equipment application. Materials consumed in the operation of an equipment or system are not equipment related consumables, e.g., fuel, lube

oil, most lubricants, chemicals, light bulbs, batteries, etc.

NS Communications (commercial long distance telephone charges)

NU Other Purchased Services (repair of typewriters, crane services, legal services, laundry services, and rental of non-passenger vehicles such as trucks, forklifts, trailers, and CO sedan, detention, a charge by a commercial carrier for holding commercial trucks and tractor/trailers beyond the allowed time, demurrage, which applies to holding railcars and barges, costs incident to a change of command and decommissioning, rental of bunting, assembling of speaker's platform and chairs, and rental of ceremonial facilities, contractor training for other than weapons and associated components, oil spill clean-up)

NV Orders for printing and publications

NY Audiovisuals (includes costs associated with audiovisual production, products, and services, e.g., film, film developing, graphic arts)

NO Aviation Support Depot Level Repairables (DLR's)

N1 NSA non-aviation DLR's (items that are used in the repair of other vessels, restricted for use by tenders, repair ships, submarine squadrons, and other specified repair activities only)

N2 Hull and Structural Maintenance and Preservation (all paints, primers, brushes, and deck coverings, chargeable hand tools, sanitary and habitability maintenance related materials including bunks, bunk partitions, lockers, plumbing fixtures, deck drains, hull safety related items such as ladder treads and rails, safety lines and nets, non-skid, and rubber matting, maintenance of watertight integrity including replacement/repair of port-holes, hatches, scuttles, and watertight doors, general purpose pipe, ventilation and electrical systems maintenance and all other structural maintenance including materials to repair or fabricate catwalks, boat hulls, batter boards, bridge windows, storage racks)

N3 Aviation Support DLR's

N4 Material Support Center (MSC) Charter

N7	Medical/Dental
N8	Temporary Storage of Household Goods
N9	Lubricants (other than propulsion, i.e., oils, additives, and other greases)
6K	Non-mission essential TAD Administrative Travel

APPENDIX B
MONTHLY OPTAR OBLIGATION DATA
USS JOUETT (CG-29)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	431616	10664	0	6074	0
NOV	137849	12768	0	1720	0
DEC	82198	8920	78	859	0
JAN	68395	27867	0	7718	940
FEB	50744	13754	73	4642	1290
MAR	10181	6483	300	10413	0
APR	75607	34410	0	9617	0
MAY	63126	32545	344	7421	0
JUN	62948	3532	1712	1303	0
JUL	79027	27905	277	1347	0
AUG	219178	9777	0	1405	0
SEP	8309	2459	0	46274	0

Fiscal Year 1986

OCT	84709	16214	0	3870	6000
NOV	59630	12262	0	5003	0
DEC	50791	4793	0	406	0
JAN	121438	29783	0	5317	0
FEB	116650	11085	0	14613	4500
MAR	95009	8408	0	-1575	0
APR	178701	26414	0	4592	0
MAY	96730	14988	0	1875	0
JUN	98317	16259	0	1798	0
JUL	66336	45422	0	31528	0
AUG	112489	-23	0	-696	44
SEP	-17205	-373	5984	251	18201

MONTHLY OPTAR OBLIGATION DATA
USS JOUETT (CG-29)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	172799	1000	0	0	7781
NOV	46360	50	0	0	5392
DEC	43122	1163	0	0	2421
JAN	61897	382	0	75	8575
FEB	63581	2903	165	15	5911
MAR	50357	1317	150	118	14735
APR	86318	1521	3050	759	8109
MAY	76721	6261	0	0	9007
JUN	54321	0	0	0	3299
JUL	129469	837	0	0	8330
AUG	69645	890	375	0	1970
SEP	79153	1381	0	0	9353

Fiscal Year 1986

OCT	158132	3782	0	152	16125
NOV	94278	495	0	0	3837
DEC	35714	898	0	0	2856
JAN	115202	1279	0	9	11010
FEB	86543	2685	0	0	14701
MAR	48004	260	350	25	-468
APR	154689	3155	0	133	10539
MAY	61147	1153	385	0	3075
JUN	106953	0	0	0	2908
JUL	96161	3026	725	129	15798
AUG	109495	4028	0	0	-708
SEP	-9864	120	0	0	-320

MONTHLY OPTAR OBLIGATION DATA
USS JOUETT (CG-29)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	2846	2427	0	604415	30792
NOV	761	866	200	184209	21757
DEC	2042	239	0	125320	15722
JAN	819	12167	150	130292	58693
FEB	582	305	0	114325	29640
MAR	3079	185	200	60538	36980
APR	39	493	433	161925	58431
MAY	1566	6	0	139847	57150
JUN	3131	127	0	117269	13104
JUL	209	301	0	208496	39206
AUG	11671	45	111	288823	26244
SEP	5675	4884	0	87462	70026

Fiscal Year 1986

OCT	0	4580	507	242841	51230
NOV	0	1190	0	153908	22787
DEC	1719	70	622	86505	11364
JAN	2790	1804	0	236640	51992
FEB	305	491	0	203193	48380
MAR	2739	394	432	143013	10565
APR	2202	532	0	333390	47567
MAY	3776	3340	0	157877	28592
JUN	1722	164	0	205270	22851
JUL	112	4680	0	162497	101420
AUG	569	160	0	221984	3374
SEP	0	-12	0	-27069	23851

MONTHLY OPTAR OBLIGATION DATA
USS HORNE (CG-30)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	161078	35818	0	4346	0
NOV	83274	16389	0	4067	0
DEC	85491	6421	0	1646	0
JAN	245361	22165	0	1713	0
FEB	36628	15793	0	1090	0
MAR	60556	32335	0	1294	0
APR	357755	24710	0	40090	0
MAY	94491	43982	0	10790	0
JUN	199757	40621	0	20495	0
JUL	85250	49873	0	-479	0
AUG	330292	28278	0	984	0
SEP	128322	15973	0	3208	0

Fiscal Year 1985

OCT	119236	14109	0	816	0
NOV	73894	9397	2212	342	374
DEC	57740	19179	3130	813	14839
JAN	103844	14436	50	4875	0
FEB	53294	13128	0	-864	265
MAR	95575	11990	1000	0	0
APR	39568	41218	600	14133	0
MAY	48893	37768	0	46	0
JUN	100767	15429	0	176	0
JUL	243656	8854	0	767	13461
AUG	17372	26579	283	46573	4766
SEP	216682	90333	127	559	4318

MONTHLY OPTAR OBLIGATION DATA
USS HORNE (CG-30)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	144892	1837	0	0	27463
NOV	78620	1891	0	0	16619
DEC	93300	794	210	0	10691
JAN	152203	900	100	0	19440
FEB	92415	0	0	15	5716
MAR	91837	430	0	0	13149
APR	111689	17675	1704	0	9930
MAY	107140	2132	-424	0	16234
JUN	170762	8151	0	0	17436
JUL	87817	4157	55	549	8594
AUG	146055	3956	100	0	15716
SEP	167127	-131	250	0	18476

Fiscal Year 1986

OCT	132795	7581	0	0	17415
NOV	74149	2481	380	380	7337
DEC	12590	-2945	-183	-183	846
JAN	65271	491	0	0	11716
FEB	103032	1556	0	0	1183
MAR	81273	3032	350	350	15742
APR	59778	180	50	50	14825
MAY	28452	2321	1170	493	6922
JUN	56156	290	475	0	7497
JUL	31869	1164	0	0	4606
AUG	34989	9260	0	0	10946
SEP	136594	3988	0	0	33753

MONTHLY OPTAR OBLIGATION DATA
USS HORNE (CG-30)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	2970	246	2500	305970	75180
NOV	2331	868	0	161894	42165
DEC	235	118	0	178791	20215
JAN	3022	1412	0	397564	48752
FEB	321	211	0	129043	24146
MAR	1817	-129	0	152393	53896
APR	8060	1717	0	469444	103886
MAY	1850	4741	0	201631	79305
JUN	1710	638	0	370519	89051
JUL	-251	122	0	173067	62620
AUG	1749	2332	100	476347	53215
SEP	433	751	0	295449	38960

Fiscal Year 1986

OCT	1959	36	0	252031	41916
NOV	1051	4	0	148043	23958
DEC	0	145	0	70330	35641
JAN	889	241	50	169115	32748
FEB	1104	39	969	156376	17379
MAR	1539	43	0	176848	34046
APR	-579	434	2938	99346	73849
MAY	-106	4537	1264	77345	54415
JUN	972	442	0	156923	25281
JUL	1987	162	192	275525	31193
AUG	0	285	351	52361	99043
SEP	5707	371	780	353276	139936

MONTHLY OPTAR OBLIGATION DATA
USS STERETT (CG-31)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	136959	26272	0	2336	0
NOV	160522	12647	205	0	0
DEC	80265	11925	1540	3882	0
JAN	170406	19218	0	291	100
FEB	149307	17727	0	123	0
MAR	183479	18365	50	542	0
APR	112508	27201	0	1107	0
MAY	217681	13836	0	0	0
JUN	117476	46871	0	355	0
JUL	136193	13458	0	56832	0
AUG	123103	43143	0	1178	0
SEP	34700	26322	2600	5204	2790

Fiscal Year 1986

OCT	132146	23829	0	8702	80
NOV	69056	33282	0	12343	0
DEC	456934	19515	0	-157	0
JAN	372278	218828	200	0	0
FEB	113294	23789	158	4047	0
MAR	95170	24071	400	456	19720
APR	97077	12658	0	1571	0
MAY	76029	9670	0	5500	600
JUN	208966	22348	5850	-592	25660
JUL	600	4125	-1400	3253	5032
AUG	89157	18519	0	4499	0
SEP	116669	30501	300	27219	0

MONTHLY OPTAR OBLIGATION DATA
USS STERETT (CG-31)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	0	24500	0	187	17814
NOV	131898	5200	115	212	2437
DEC	95945	10	0	0	2571
JAN	84620	1510	725	0	8647
FEB	99134	-4160	0	84	11500
MAR	93773	4677	150	0	1289
APR	47227	1203	215	139	8812
MAY	90538	75	171	0	1439
JUN	97702	2200	-132	-153	8360
JUL	63625	0	340	139	4411
AUG	97146	4248	0	1021	29056
SEP	45470	8145	990	0	16509

Fiscal Year 1986

OCT	51761	29023	255	0	14124
NOV	36840	5148	650	0	25799
DEC	100497	6914	0	0	5328
JAN	80363	7894	280	0	12584
FEB	45692	100	100	0	4621
MAR	88321	3028	-200	105	1674
APR	81321	4196	950	144	9378
MAY	47689	5175	0	0	1052
JUN	67323	7596	0	0	7687
JUL	32097	2638	75	-105	14348
AUG	58900	10097	0	85	14621
SEP	91666	4467	368	0	36799

MONTHLY OPTAR OBLIGATION DATA
USS STERETT (CG-31)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	2211	1567	100	186959	74987
NOV	587	1061	100	292420	22564
DEC	886	587	0	176210	21401
JAN	3595	5649	100	255026	39835
FEB	2807	11173	0	248441	39254
MAR	-109	488	0	277252	25452
APR	2878	468	0	159735	42023
MAY	2183	119	0	308219	17823
JUN	1935	4766	0	215178	64202
JUL	9258	346	0	199818	84784
AUG	2677	412	0	220249	81735
SEP	892	69	2100	80170	65621

Fiscal Year 1986

OCT	2198	1269	1	183907	79481
NOV	13	4509	0	105896	81744
DEC	621	2391	0	557431	34612
JAN	3314	68	0	452641	243168
FEB	3764	882	450	158986	37911
MAR	1496	-224	38	183491	50564
APR	4622	1013	0	178398	34532
MAY	263	2557	200	123718	25017
JUN	991	3383	0	276289	72923
JUL	5544	-3351	0	32697	30159
AUG	-1713	54	100	148057	46262
SEP	5095	3845	150	208335	108744

MONTHLY OPTAR OBLIGATION DATA
USS W. H. STANDLEY (CG-32)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	126811	10292	448	1111	3992
NOV	108099	4974	0	4260	760
DEC	26435	4960	4005	0	709
JAN	72689	26272	0	1297	0
FEB	128650	8819	-200	1021	0
MAR	124960	13998	0	12260	0
APR	105307	28962	0	1710	1950
MAY	86524	4133	460	790	0
JUN	64740	4488	0	3860	-3892
JUL	126908	19271	-855	1772	-110
AUG	362117	29239	292	72065	0
SEP	30826	15928	300	12114	2290

Fiscal Year 1986

OCT	191644	23295	500	3510	0
NOV	121030	7623	0	1136	0
DEC	43303	11423	0	1762	0
JAN	34463	20717	0	3272	0
FEB	170334	22315	1520	35024	0
MAR	140244	4588	0	785	0
APR	193245	29410	0	1352	0
MAY	106534	24675	0	4089	0
JUN	94768	925	0	2672	0
JUL	91094	18076	0	13252	0
AUG	89259	13710	0	3592	0
SEP	94269	10521	500	11105	5230

MONTHLY OPTAR OBLIGATION DATA
USS W. H. STANDLEY (CG-32)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	148318	196	100	0	8267
NOV	67135	0	691	0	1705
DEC	34933	100	200	0	729
JAN	45087	2678	0	0	9459
FEB	67743	-355	-600	0	2242
MAR	39281	2468	0	0	1540
APR	72725	355	0	0	4221
MAY	83590	2505	0	0	6522
JUN	76303	-196	0	0	9404
JUL	140977	1721	200	0	11364
AUG	83966	928	100	252	3092
SEP	114800	494	0	0	3313

Fiscal Year 1986

OCT	129612	4741	90	373	14327
NOV	75002	513	0	0	1208
DEC	59461	795	0	0	910
JAN	28364	1375	0	13	9829
FEB	53360	492	0	0	4874
MAR	88546	307	0	0	1556
APR	84582	1954	0	134	6751
MAY	68034	2760	0	0	9394
JUN	28783	-150	0	0	2326
JUL	107865	692	0	72	11167
AUG	69655	3083	100	461	7328
SEP	40935	4681	0	0	3636

MONTHLY OPTAR OBLIGATION DATA
USS W. H. STANDLEY (CG-32)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	208	144	0	275129	24758
NOV	781	17	0	175234	13188
DEC	0	0	0	61418	10703
JAN	493	42	0	117776	40241
FEB	0	0	0	196393	10927
MAR	624	0	0	164241	30890
APR	1144	57	0	178032	38399
MAY	2957	261	0	170114	17628
JUN	420	260	0	141043	14344
JUL	641	365	0	267885	34369
AUG	16524	2521	0	446083	125013
SEP	10775	2266	200	145626	47680

Fiscal Year 1986

OCT	887	4026	1000	321256	52749
NOV	534	0	0	196032	11014
DEC	92	76	0	102764	15058
JAN	128	4843	0	62827	40177
FEB	915	381	0	223694	65521
MAR	907	2	0	228790	8145
APR	732	763	0	277827	41096
MAY	-121	267	2140	174568	43204
JUN	1017	0	0	123551	6790
JUL	7552	4499	1521	198959	56831
AUG	-5539	1170	0	158914	23905
SEP	4687	96	1000	135204	41456

MONTHLY OPTAR OBLIGATION DATA
USS FOX (CG-33)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	102396	17516	0	2297	0
NOV	104462	14953	0	819	0
DEC	113010	8952	0	3073	0
JAN	244207	19875	0	2484	0
FEB	137228	26293	0	2706	0
MAR	41487	7732	0	769	6716
APR	106551	20661	0	1331	0
MAY	204619	15040	0	453	0
JUN	123587	22347	0	4516	0
JUL	108420	52895	0	2437	0
AUG	113037	9795	0	1770	0
SEP	40625	2536	0	45750	0

Fiscal Year 1986

OCT	73711	7863	4481	5706	1529
NOV	131186	9097	870	812	15453
DEC	40659	7569	0	209	0
JAN	162330	11490	0	2521	-2244
FEB	54105	15775	0	1466	3608
MAR	3850	12563	0	-706	0
APR	19320	17454	0	2464	0
MAY	80140	18108	0	3043	0
JUN	76986	19176	0	169	0
JUL	91262	4714	0	1418	0
AUG	29274	22325	0	5206	1320
SEP	303514	12235	-2335	22889	-5545

MONTHLY OPTAR OBLIGATION DATA
USS FOX (CG-33)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	107300	4512	825	77	4324
NOV	88499	555	100	115	7506
DEC	49170	1964	251	0	3575
JAN	149021	350	2768	39	12183
FEB	144523	3473	130	0	5066
MAR	130657	295	0	583	2328
APR	98448	270	0	0	9467
MAY	87196	200	205	0	4629
JUN	91873	2496	462	0	15883
JUL	128146	1745	680	0	12394
AUG	86544	1730	0	0	9135
SEP	81005	-7320	-100	0	711

Fiscal Year 1986

OCT	87001	337	0	154	5729
NOV	78475	480	0	0	3472
DEC	76951	1240	0	165	3856
JAN	44379	6273	0	0	607
FEB	69343	4646	1004	0	5823
MAR	1983	4783	0	5	8773
APR	38939	651	0	0	7470
MAY	49863	3538	867	0	3511
JUN	92590	5525	0	0	5610
JUL	23989	3161	0	0	5352
AUG	31098	4525	0	0	5421
SEP	215648	-7144	0	0	5151

MONTHLY OPTAR OBLIGATION DATA
USS FOX (CG-33)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	1734	221	1000	209696	32506
NOV	589	3449	0	192961	28086
DEC	187	0	0	162180	18002
JAN	359	1331	0	393228	39389
FEB	302	49	0	281751	38019
MAR	1067	-3132	150	172144	16508
APR	622	2760	0	204999	35111
MAY	1426	419	0	291815	22372
JUN	2323	622	0	215460	48649
JUL	3213	337	0	236566	73701
AUG	5482	534	0	199581	28446
SEP	781	620	2246	121630	45224

Fiscal Year 1986

OCT	2333	591	1196	160712	29919
NOV	6612	1267	0	209661	38063
DEC	-43	0	200	117610	13196
JAN	1840	46	50	206709	20583
FEB	0	41	0	123448	32363
MAR	-2698	-634	2000	5833	24086
APR	230	159	0	58259	28428
MAY	-149	1931	-185	130003	30664
JUN	3665	165	0	169576	34310
JUL	1220	49	25	115251	15939
AUG	7001	965	0	60372	46763
SEP	6223	143	600	519162	32217

MONTHLY OPTAR OBLIGATION DATA
USS KNOX (FF-1052)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	26645	17461	2623	1584	1425
NOV	31027	15919	50	1982	0
DEC	10818	4775	670	675	4600
JAN	24293	10618	1300	2847	0
FEB	51791	18572	80	2206	0
MAR	45392	11660	1711	2868	0
APR	163160	16589	-280	2127	0
MAY	33482	18107	-9	2377	0
JUN	-31313	17780	-2584	-2295	0
JUL	61909	13521	0	2541	0
AUG	*	*	*	*	*
SEP	*	*	*	*	*

Fiscal Year 1986

OCT	90641	12170	923	746	0
NOV	40880	7443	2112	376	9900
DEC	17223	4197	0	2692	0
JAN	18212	12773	950	-1520	0
FEB	24150	8244	0	1516	315
MAR	63324	7054	740	1025	7580
APR	11567	19924	280	2659	0
MAY	24540	8088	0	1999	0
JUN	26650	2143	181	-472	0
JUL	36432	15900	652	9874	1245
AUG	71521	11112	0	5291	0
SEP	28396	6114	15	129	24787

MONTHLY OPTAR OBLIGATION DATA
USS KNOX (FF-1052)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	31931	1339	428	34	5313
NOV	42380	0	0	428	5611
DEC	14548	1300	20	0	2512
JAN	36712	850	440	0	13774
FEB	28537	5586	336	0	5390
MAR	27173	565	415	0	2464
APR	25386	2025	200	0	9396
MAY	43369	1015	0	0	8473
JUN	12896	-110	-253	-275	3145
JUL	33847	0	0	0	6526
AUG	*	*	0	0	*
SEP	*	*	0	0	*

Fiscal Year 1986

OCT	22232	2957	150	0	8227
NOV	67579	690	0	0	2654
DEC	33890	275	250	0	2259
JAN	33248	3436	350	105	4652
FEB	19057	2734	0	0	3484
MAR	50617	-1944	0	0	5567
APR	37239	800	0	104	8135
MAY	10594	980	0	0	7517
JUN	510	642	271	0	2334
JUL	32259	2465	0	0	9265
AUG	38869	1566	30	331	6504
SEP	16505	4995	0	0	1941

MONTHLY OPTAR OBLIGATION DATA
USS KNOX (FF-1052)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	920	2545	33	58576	33705
NOV	749	131	0	73407	24870
DEC	73	86	22	25366	14733
JAN	2783	290	19	61005	32921
FEB	1449	610	0	80328	34229
MAR	366	1643	0	72565	21692
APR	1185	971	145	188546	32358
MAY	2274	1992	123	76851	34352
JUN	402	415	100	-18417	16325
JUL	995	356	0	95756	23939
AUG	*	*	0	*	*
SEP	*	*	0	*	*

Fiscal Year 1986

OCT	752	2109	0	112373	28034
NOV	1891	594	138	108459	25898
DEC	-106	1071	36	51113	10674
JAN	2884	1332	11	51160	24973
FEB	60	309	27	45207	16689
MAR	228	15	29	113941	20294
APR	0	69	17	48806	31988
MAY	1612	2739	180	33134	23115
JUN	1161	216	-199	27160	6277
JUL	1829	490	60	68691	41780
AUG	1316	118	11	110390	26279
SEP	511	126	30	44901	38648

MONTHLY OPTAR OBLIGATION DATA
USS WHIPPLE (FF-1062)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	16910	24981	400	9277	0
NOV	-109	10939	0	614	0
DEC	264906	10812	0	3224	0
JAN	7958	17038	0	7840	0
FEB	9782	16652	0	17349	0
MAR	16565	7884	0	2920	0
APR	38126	11792	2300	358	0
MAY	21123	10342	3080	1367	0
JUN	27955	13488	0	9484	85
JUL	25399	12728	0	2339	0
AUG	10970	15765	0	12877	0
SEP	14717	7242	2600	3158	0

Fiscal Year 1986

OCT	43508	13517	700	0	2025
NOV	26564	10680	0	903	0
DEC	149	2837	0	936	0
JAN	29030	18013	0	714	0
FEB	16493	18689	0	9029	0
MAR	4386	7230	500	3518	0
APR	42196	16938	300	0	0
MAY	40178	2687	225	1329	9818
JUN	21528	8798	560	0	21137
JUL	28150	6776	2069	2259	6436
AUG	14505	5189	1719	13381	8205
SEP	260	15090	150	732	0

MONTHLY OPTAR OBLIGATION DATA
USS WHIPPLE (FF-1062)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	112676	361	0	75	32575
NOV	21763	3409	0	0	8712
DEC	81564	370	160	511	17783
JAN	21251	2329	200	578	31720
FEB	16087	1061	467	11	5851
MAR	20168	680	-1260	141	7811
APR	27791	154	190	15	8315
MAY	26141	612	0	0	3212
JUN	29004	75	55	-126	2048
JUL	26415	55	170	0	2609
AUG	39602	171	0	0	3990
SEP	23900	59	670	0	7426

Fiscal Year 1986

OCT	66754	864	511	44	11993
NOV	24264	348	132	0	1544
DEC	35138	308	182	0	5687
JAN	89390	1164	-100	0	12293
FEB	45097	792	1175	0	6674
MAR	12888	489	-324	-30	952
APR	24008	155	102	0	6590
MAY	33405	398	0	0	94
JUN	22812	280	0	0	182
JUL	65219	6676	0	0	2489
AUG	29567	466	0	0	1390
SEP	19774	6586	125	0	10473

MONTHLY OPTAR OBLIGATION DATA
USS WHIPPLE (FF-1062)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	187	643	200	129586	68699
NOV	473	62	0	21654	24209
DEC	462	838	0	346470	34160
JAN	356	57	0	29209	60118
FEB	0	0	0	25869	41391
MAR	4378	365	0	36733	22919
APR	765	1503	1000	65917	26392
MAY	1291	372	0	47264	20276
JUN	3568	54	0	56959	28731
JUL	1884	2797	0	51814	22582
AUG	18912	216	0	50572	51931
SEP	1176	216	847	38617	23394

Fiscal Year 1986

OCT	1713	936	400	110262	32703
NOV	2150	1202	0	60828	16959
DEC	404	216	0	35287	10570
JAN	3298	2428	0	118420	37810
FEB	892	1927	0	61590	39178
MAR	1339	938	200	17274	14812
APR	2001	1529	0	66204	27615
MAY	1399	289	0	73583	16239
JUN	55	82	0	44340	31094
JUL	2391	755	600	93369	30451
AUG	937	11	0	44072	31298
SEP	334	309	0	20034	33799

MONTHLY OPTAR OBLIGATION DATA
USS LOCKWOOD (FF-1064)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	31608	23159	200	0	0
NOV	15738	578	400	36	0
DEC	10173	10717	635	0	6650
JAN	62518	26471	0	800	0
FEB	38634	9185	6161	12934	665
MAR	13433	9561	1987	0	0
APR	27759	21417	200	4896	248
MAY	16242	8478	0	10985	5695
JUN	-2805	12434	0	756	0
JUL	-3490	14315	50	13057	0
AUG	10971	19136	0	-405	0
SEP	12696	6899	0	2904	0

Fiscal Year 1986

OCT	77236	22230	75	8733	0
NOV	22470	7755	30	0	0
DEC	9150	6144	30	0	0
JAN	16133	11321	0	0	0
FEB	1679	21048	87	1561	0
MAR	27931	5435	240	-232	0
APR	13139	19078	10	8250	0
MAY	29497	4241	1740	8415	0
JUN	4997	6185	545	643	4500
JUL	14679	10947	398	2691	16666
AUG	32983	12187	390	0	0
SEP	55184	33558	864	13101	0

MONTHLY OPTAR OBLIGATION DATA
USS LOCKWOOD (FF-1064)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	45976	370	350	0	9414
NOV	57305	370	75	0	4027
DEC	35005	630	0	0	2557
JAN	53389	755	172	0	6366
FEB	46810	1168	0	0	75900
MAR	22860	2342	0	134	2505
APR	57919	4306	0	91	34389
MAY	13056	225	0	255	17323
JUN	9265	565	300	0	26353
JUL	18405	1432	550	197	12776
AUG	30424	690	600	0	25378
SEP	9239	453	65	45	825

Fiscal Year 1986

OCT	61442	10405	362	0	18284
NOV	17610	0	120	0	2000
DEC	9542	825	0	0	1508
JAN	4079	0	185	0	2343
FEB	28810	600	180	1000	5426
MAR	33547	440	0	958	7327
APR	25683	200	25	0	6466
MAY	22849	1130	632	0	-721
JUN	18644	825	220	0	4505
JUL	10890	328	0	0	1249
AUG	11378	11383	317	0	2634
SEP	35810	1929	194	0	3844

MONTHLY OPTAR OBLIGATION DATA
USS LOCKWOOD (FF-1064)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	1945	455	25	77584	35918
NOV	169	1539	0	73043	7194
DEC	3164	1770	0	45178	26123
JAN	80	983	400	115907	36027
FEB	1177	289	0	85444	107479
MAR	1702	670	57	36293	18958
APR	368	989	0	85678	66904
MAY	-38	61	311	29298	43295
JUN	0	1134	63	6460	41605
JUL	-105	824	337	14915	43433
AUG	2448	258	63	41395	48168
SEP	17802	80	125	21935	29198

Fiscal Year 1986

OCT	0	2855	231	138678	63175
NOV	0	2455	439	40080	12799
DEC	2103	100	40	18692	10750
JAN	10918	200	134	20212	25101
FEB	100	2134	20	30489	32156
MAR	-27	1007	40	61478	15188
APR	2576	35	15	38822	36655
MAY	1465	83	0	52346	16985
JUN	-88	223	100	23641	17658
JUL	4071	-682	31	25569	35699
AUG	-3615	329	20	44361	23645
SEP	0	479	0	90994	53969

MONTHLY OPTAR OBLIGATION DATA
USS STEIN (FF-1065)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	54689	6539	850	0	438
NOV	44311	15480	278	606	0
DEC	4014	1252	200	1030	0
JAN	64035	13748	300	2433	0
FEB	40718	7500	0	959	0
MAR	33951	6231	200	149	0
APR	31130	20230	400	1480	0
MAY	32908	11883	150	0	0
JUN	20004	11543	0	0	0
JUL	98970	22261	200	3509	0
AUG	-19069	6062	0	0	3936
SEP	55151	11578	924	13815	1425

Fiscal Year 1986

OCT	54066	30095	1000	598	0
NOV	13793	3219	0	610	0
DEC	24005	1703	0	0	0
JAN	10132	16524	0	715	0
FEB	70610	7734	0	0	0
MAR	-10390	1467	0	279	0
APR	-5255	10722	0	222	0
MAY	20343	10861	0	3728	0
JUN	14160	6438	0	1391	0
JUL	49245	11546	400	2322	0
AUG	29009	12922	700	5429	2900
SEP	53378	24549	200	3123	-100

MONTHLY OPTAR OBLIGATION DATA
USS STEIN (FF-1065)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	42427	274	0	0	12786
NOV	30707	1015	0	96	9002
DEC	13761	1846	0	0	315
JAN	58135	1311	0	0	8711
FEB	23958	4066	0	0	7208
MAR	65807	1269	0	0	9212
APR	30242	2323	0	0	11675
MAY	13616	11210	0	0	11513
JUN	24694	623	0	0	9807
JUL	5403	1648	0	0	1652
AUG	52314	1472	0	0	2565
SEP	69227	1067	0	0	6632

Fiscal Year 1986

OCT	33930	4957	0	0	10616
NOV	40861	1371	0	0	-480
DEC	21807	1926	0	0	2226
JAN	41255	2982	0	0	1524
FEB	58740	1224	0	0	5890
MAR	31339	822	0	58	1160
APR	37797	7490	0	0	9276
MAY	47780	2287	0	88	5498
JUN	14978	1345	0	0	2558
JUL	27385	5533	0	0	6640
AUG	43745	11101	0	0	7972
SEP	39106	1453	0	0	4088

MONTHLY OPTAR OBLIGATION DATA
USS STEIN (FF-1065)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	489	2065	500	97116	23941
NOV	2476	1273	366	75018	30592
DEC	556	0	0	17775	5199
JAN	117	2080	0	122170	28700
FEB	2570	390	0	64676	22693
MAR	295	666	0	99758	18022
APR	2558	273	600	61372	39539
MAY	782	-641	0	46524	34897
JUN	300	205	0	44698	22478
JUL	1936	1723	0	104373	32929
AUG	9180	20	0	33245	23235
SEP	3588	752	0	124378	39781

Fiscal Year 1986

OCT	1046	422	0	87996	48734
NOV	181	10	0	54654	4911
DEC	271	40	0	45812	6166
JAN	2078	45	0	51387	23868
FEB	635	92	0	129350	15575
MAR	534	112	0	20949	4432
APR	455	97	0	32542	28262
MAY	14	68	0	68123	22544
JUN	1252	25	0	29138	13009
JUL	1556	116	0	76630	28113
AUG	2441	88	0	72754	43553
SEP	5261	261	0	92484	38835

MONTHLY OPTAR OBLIGATION DATA
USS F. HAMMOND (FF-1067)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	27567	25122	20	11235	0
NOV	8704	6612	0	5451	0
DEC	4246	9836	160	11092	0
JAN	8206	10356	0	4184	0
FEB	8063	17012	0	3862	0
MAR	51047	11576	250	702	0
APR	4453	20618	100	5063	0
MAY	11070	10314	500	1201	0
JUN	18500	14658	70	-587	0
JUL	55841	6072	0	4644	0
AUG	29607	35465	0	11422	0
SEP	70952	20652	0	26312	0

Fiscal Year 1986

OCT	21512	6918	0	15349	0
NOV	20420	5078	0	2595	0
DEC	6400	2052	514	445	40
JAN	53835	25683	0	0	8147
FEB	9272	1533	0	0	7767
MAR	66501	407	1017	300	7683
APR	17830	12962	500	2256	0
MAY	46921	14151	500	705	0
JUN	19540	2468	0	2352	7600
JUL	20320	16474	0	20707	1862
AUG	16142	5861	0	4740	4000
SEP	10121	12175	4034	20185	0

MONTHLY OPTAR OBLIGATION DATA
USS F. HAMMOND (FF-1067)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	70319	8472	345	0	15209
NOV	13919	1176	60	0	77411
DEC	35624	620	75	0	7406
JAN	17001	788	105	0	5503
FEB	22786	957	545	0	5503
MAR	64043	463	780	0	7797
APR	23142	740	300	0	5042
MAY	20442	1228	50	0	3477
JUN	29460	635	80	0	7960
JUL	24358	1000	0	0	1803
AUG	40124	400	240	0	29942
SEP	96139	1735	1655	0	5789

Fiscal Year 1986

OCT	15699	9141	42	0	6447
NOV	14315	1095	145	0	1293
DEC	18371	1406	0	0	697
JAN	41361	1296	0	0	10124
FEB	36975	5070	0	0	-768
MAR	15323	4550	0	0	-143
APR	11439	1458	250	0	8123
MAY	14105	350	0	0	4741
JUN	33316	5700	15	0	392
JUL	33676	6618	0	0	19977
AUG	31457	609	0	0	7519
SEP	57373	2250	365	0	14488

MONTHLY OPTAR OBLIGATION DATA
USS F. HAMMOND (FF-1067)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	348	111	45	97886	60907
NOV	-2	116	33	22623	90857
DEC	1099	22	0	39870	30310
JAN	824	328	97	25207	22185
FEB	539	1431	133	30849	29982
MAR	1105	73	52	115090	22798
APR	1853	682	0	27595	34398
MAY	8483	4745	104	31512	30102
JUN	-160	14	39	47960	22709
JUL	405	585	85	80199	14594
AUG	2959	628	0	69731	81056
SEP	6543	2831	55	167091	65572

Fiscal Year 1986

OCT	750	119	47	37211	38813
NOV	1260	154	0	34735	11620
DEC	696	0	23	24771	5873
JAN	968	2968	120	95196	49306
FEB	797	-11	223	46247	14611
MAR	844	53	515	81824	15226
APR	0	1429	0	29269	26978
MAY	780	1051	0	61026	22278
JUN	390	136	0	52856	19053
JUL	410	843	81	53996	66972
AUG	1246	781	27	47599	24783
SEP	1220	1298	61	67494	56076

MONTHLY OPTAR OBLIGATION DATA
USS DOWNES (FF-1070)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	57402	32155	0	689	0
NOV	29459	5130	0	0	0
DEC	26557	30029	3659	413	0
JAN	39840	3419	0	13	0
FEB	64465	5768	0	0	0
MAR	35009	1316	163	0	0
APR	41618	18925	414	30	0
MAY	20974	8701	0	341	2766
JUN	24072	8552	0	0	0
JUL	38652	16918	0	0	0
AUG	10512	5971	0	0	0
SEP	57067	10948	0	1031	0

Fiscal Year 1986

OCT	34272	11196	350	2359	0
NOV	8424	29635	0	0	0
DEC	25503	13323	0	0	0
JAN	41396	22043	0	4081	0
FEB	5671	4314	0	210	0
MAR	3720	3050	0	-153	0
APR	9600	12571	332	7956	4648
MAY	17098	5981	0	1931	0
JUN	9320	-145834	874	-16483	4156
JUL	12845	11566	0	2089	0
AUG	25450	3510	80	175	0
SEP	37636	8041	320	0	5586

MONTHLY OPTAR OBLIGATION DATA
USS DOWNES (FF-1070)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	93445	2666	0	0	7018
NOV	33049	0	0	0	4288
DEC	54872	1784	0	0	14328
JAN	70461	0	0	0	-1304
FEB	25156	-192	0	0	1898
MAR	34902	2500	0	0	1098
APR	45657	769	0	0	9190
MAY	10585	106	0	0	2704
JUN	24701	151	0	0	1537
JUL	53269	21005	0	0	1986
AUG	18808	515	0	0	7163
SEP	20829	390	0	0	5575

Fiscal Year 1986

OCT	38574	4799	0	0	5363
NOV	49085	120	0	0	3746
DEC	54949	1370	225	0	2451
JAN	54380	1483	0	0	13509
FEB	37100	1681	0	0	7914
MAR	15130	1410	0	14	-3440
APR	85968	152	0	0	10057
MAY	7079	-575	50	0	3858
JUN	-2943	1763	300	0	3023
JUL	121300	-990	500	0	15891
AUG	36574	16281	1055	0	6096
SEP	60058	64	0	0	1119

MONTHLY OPTAR OBLIGATION DATA
USS DOWNES (FF-1070)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	835	3387	100	150847	46850
NOV	1038	207	0	62508	10663
DEC	603	245	295	81429	51356
JAN	561	5022	0	110301	7711
FEB	807	-709	0	89621	7572
MAR	392	0	0	69911	5469
APR	1939	397	0	87275	31664
MAY	340	74	0	31559	15032
JUN	251	82	0	48773	10573
JUL	3481	1854	0	91921	45244
AUG	10920	241	468	29320	25283
SEP	4542	751	2505	77896	25742

Fiscal Year 1986

OCT	1128	31	350	72846	25576
NOV	-112	123	255	57509	33767
DEC	362	1666	0	80452	19397
JAN	1910	351	0	95776	43377
FEB	-118	20	0	42771	14021
MAR	0	778	0	18850	1659
APR	1050	726	-255	95568	37237
MAY	1064	0	0	24177	12309
JUN	-14	-1159	0	6377	-153374
JUL	1336	213	0	134145	30605
AUG	0	9	0	62024	27206
SEP	62	-4	0	97694	15188

MONTHLY OPTAR OBLIGATION DATA
USS BADGER (FF-1071)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	29411	26041	0	3808	0
NOV	10845	4124	0	0	0
DEC	3389	1207	0	245	0
JAN	17228	21789	60	508	0
FEB	21053	16181	0	1259	0
MAR	40609	7566	0	5276	0
APR	37878	21371	0	4951	0
MAY	19714	8478	100	2039	0
JUN	18449	6053	19	695	806
JUL	9212	30176	0	3208	0
AUG	24425	2803	100	0	0
SEP	11770	1057	-60	3537	0

Fiscal Year 1986

OCT	40661	7677	3900	181	1197
NOV	29942	9544	326	1404	4556
DEC	10677	3367	0	315	0
JAN	10072	12636	0	300	0
FEB	69463	8135	0	656	0
MAR	27710	9039	0	3011	0
APR	9747	8923	863	5040	2852
MAY	20542	4644	300	1528	1955
JUN	19879	17907	0	1307	0
JUL	25074	6021	537	5474	6015
AUG	25406	11057	0	4634	445
SEP	2947	6224	0	3741	0

MONTHLY OPTAR OBLIGATION DATA
USS BADGER (FF-1071)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	65664	5610	0	0	13099
NOV	73085	338	0	0	1779
DEC	27785	830	0	0	2280
JAN	78163	354	50	0	12590
FEB	45903	341	613	0	3453
MAR	34813	-20	523	0	9710
APR	66833	1679	0	88	18857
MAY	34929	1368	170	0	7778
JUN	85960	650	410	385	6274
JUL	32834	2339	100	190	18735
AUG	67107	729	0	0	1200
SEP	19822	-1050	0	0	1896

Fiscal Year 1986

OCT	53825	1030	0	1110	4063
NOV	23730	866	0	0	3900
DEC	11996	0	0	-735	2680
JAN	70438	583	0	-90	7338
FEB	27640	644	390	0	6549
MAR	42859	295	350	0	6666
APR	21789	3676	0	266	6850
MAY	57616	50	0	193	5510
JUN	42587	2678	65	0	4718
JUL	17950	1547	0	0	4597
AUG	46380	219	0	315	8121
SEP	16932	1303	0	0	2667

MONTHLY OPTAR OBLIGATION DATA
USS BADGER (FF-1071)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	2303	1602	0	95075	52463
NOV	0	-7	0	83930	6234
DEC	0	12	0	31174	4574
JAN	255	764	14	95391	36384
FEB	0	107	0	66956	21954
MAR	2077	6	0	75422	25138
APR	728	449	0	104711	48123
MAY	2402	812	200	54643	23347
JUN	-80	0	1300	104409	16512
JUL	4156	1199	0	42046	60103
AUG	609	318	500	91532	6259
SEP	-113	90	420	31592	5777

Fiscal Year 1986

OCT	703	79	0	94486	19940
NOV	0	278	200	53672	21074
DEC	2763	544	0	22673	8934
JAN	11	421	500	80510	21699
FEB	3538	143	0	97103	20055
MAR	717	0	0	70569	20078
APR	296	212	500	31536	29478
MAY	-650	97	8	78158	13635
JUN	5533	242	249	62466	32699
JUL	363	359	280	43024	25193
AUG	-10	285	212	71786	25278
SEP	3437	30	0	19879	17402

MONTHLY OPTAR OBLIGATION DATA
USS FANNING (FF-1076)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	11042	15657	500	0	0
NOV	50961	11246	450	2549	0
DEC	4302	14785	300	7056	0
JAN	61623	15486	0	2871	0
FEB	50469	18259	0	2304	0
MAR	14804	7477	150	1216	0
APR	62295	9556	515	333	1589
MAY	26788	10221	2697	0	0
JUN	30349	11765	0	1440	0
JUL	41114	12301	158	3213	2952
AUG	7148	3790	250	-1852	0
SEP	-17908	16829	0	6252	0

Fiscal Year 1986

OCT	42757	8410	1225	1895	0
NOV	25102	6632	0	1440	0
DEC	682	3860	0	3641	0
JAN	18465	14337	0	10780	0
FEB	33725	9283	0	2748	0
MAR	15821	4448	0	-54	0
APR	50234	-1486	0	327	0
MAY	30141	12562	1000	-2735	0
JUN	13151	2535	662	374	5177
JUL	28273	17131	0	12361	0
AUG	17256	15617	500	12473	0
SEP	1728	12313	775	16806	9381

MONTHLY OPTAR OBLIGATION DATA
USS FANNING (FF-1076)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	53604	1623	7	0	4221
NOV	38166	2422	0	0	3120
DEC	43416	1324	300	0	1978
JAN	67064	956	0	0	9240
FEB	50274	256	0	180	5590
MAR	40773	1328	0	0	3482
APR	52010	30	0	0	5194
MAY	21294	0	0	0	5335
JUN	30060	-950	0	0	-126
JUL	57009	946	0	0	6349
AUG	22945	731	0	0	5066
SEP	19803	456	175	0	17488

Fiscal Year 1986

OCT	55334	1752	150	0	8747
NOV	33236	2234	50	0	3687
DEC	20950	2661	0	0	4690
JAN	39320	638	0	0	5314
FEB	38666	1052	0	0	6804
MAR	24629	129	0	0	1819
APR	65494	515	0	0	35255
MAY	21182	15195	0	0	5331
JUN	22539	2979	0	0	1368
JUL	12512	16	0	0	-1735
AUG	27737	355	0	0	4383
SEP	12255	2189	0	89	4207

MONTHLY OPTAR OBLIGATION DATA
USS FANNING (FF-1076)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	1465	968	500	64646	24941
NOV	1339	12	0	89127	21138
DEC	44	40	506	47718	26333
JAN	827	1307	106	128687	30793
FEB	890	1033	0	100743	28512
MAR	6156	34	300	55577	20143
APR	5566	2533	325	114305	25641
MAY	8	61	210	48082	18532
JUN	91	1	0	60409	12221
JUL	776	342	100	98123	27137
AUG	-4	311	0	30093	8292
SEP	2700	-1941	0	1895	41959

Fiscal Year 1986

OCT	525	234	500	98091	23438
NOV	234	230	0	58338	14507
DEC	1226	89	0	21632	16167
JAN	761	60	0	57785	31890
FEB	1454	63	0	72391	21404
MAR	235	758	0	40450	7335
APR	1277	104	0	115728	35992
MAY	271	134	0	51323	31758
JUN	-101	360	0	35690	13354
JUL	904	274	0	40785	28951
AUG	323	112	127	44993	33890
SEP	445	483	0	13983	46688

MONTHLY OPTAR OBLIGATION DATA
USS COOK (FF-1083)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	30754	10049	0	4207	0
NOV	8724	11990	974	25311	0
DEC	28902	6052	117	3738	0
JAN	18826	21692	0	2064	0
FEB	7183	7096	0	-600	0
MAR	20637	5954	1500	-281	0
APR	54925	14039	0	2136	0
MAY	44678	23949	0	2168	0
JUN	6186	17663	0	8322	0
JUL	17359	27386	0	5372	0
AUG	64613	24306	250	-327	0
SEP	26486	18870	0	3999	0

Fiscal Year 1986

OCT	5637	2858	2829	1142	1197
NOV	25625	11473	434	2224	566
DEC	4453	4791	0	-730	0
JAN	19436	6331	0	-445	0
FEB	5591	15971	430	1794	0
MAR	33258	1067	-346	2228	1727
APR	26112	17942	50	5197	6400
MAY	3293	6979	0	-95	-4800
JUN	274656	113149	-556	44485	-5090
JUL	-263613	-96505	348	-45481	4538
AUG	4505	18156	150	36509	7609
SEP	74924	31334	235	-2932	-1809

MONTHLY OPTAR OBLIGATION DATA
USS COOK (FF-1083)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	17196	464	103	39	3085
NOV	22182	1352	666	0	8005
DEC	29119	432	870	0	1842
JAN	43655	599	490	447	11792
FEB	22350	55	0	0	2609
MAR	33923	236	20	4	1639
APR	55760	710	40	0	10309
MAY	42684	2657	1900	0	26566
JUN	49795	3140	0	0	14135
JUL	22764	1652	1330	0	15886
AUG	79438	1287	600	0	4466
SEP	60419	100	0	0	4281

Fiscal Year 1986

OCT	39593	1580	175	0	2000
NOV	60315	1217	1200	0	7225
DEC	12949	858	0	0	1117
JAN	27160	500	378	0	4455
FEB	36795	547	110	0	3058
MAR	15079	918	150	0	3895
APR	21859	4958	754	0	5566
MAY	18709	6950	160	0	1695
JUN	194582	-4844	0	490	47622
JUL	-176149	4120	300	-490	-38317
AUG	76725	1080	600	1149	4680
SEP	43017	1009	400	2063	3712

MONTHLY OPTAR OBLIGATION DATA
USS COOK (FF-1083)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	1659	394	200	47950	20200
NOV	210	403	0	30906	48911
DEC	126	592	0	58021	13769
JAN	1960	678	250	62481	39972
FEB	-19	128	0	29533	9269
MAR	26	1230	0	54560	10328
APR	12985	68	0	110685	40287
MAY	0	2722	250	87362	60212
JUN	3758	267	0	55981	47285
JUL	1488	-159	0	40123	52955
AUG	-263	856	0	144051	31175
SEP	1483	-339	0	86905	28394

Fiscal Year 1986

OCT	891	26	0	45230	12698
NOV	57	359	72	85940	24827
DEC	706	156	500	17402	7398
JAN	0	130	0	46596	11349
FEB	1310	68	0	42386	23288
MAR	0	17	0	48337	9656
APR	143	25	280	47971	41315
MAY	302	113	0	22002	11304
JUN	19690	0	-152	469238	214794
JUL	-17773	-173	152	-439762	-189281
AUG	476	194	600	81230	71203
SEP	664	1468	350	117941	36494

MONTHLY OPTAR OBLIGATION DATA
USS KIRK (FF-1087)

Fiscal Year 1985

MONTH	NB	NC	ND	NE	NK
OCT	14571	13165	290	760	0
NOV	13874	7543	1275	3007	0
DEC	61082	10877	375	2332	0
JAN	19184	18061	0	4860	0
FEB	23343	9291	50	4832	0
MAR	4228	11986	2775	4809	0
APR	29363	25500	0	367	248
MAY	40597	7528	150	-1234	0
JUN	41541	10931	0	444	0
JUL	50470	11209	0	6302	0
AUG	80564	14177	0	11063	635
SEP	77222	2397	465	23032	5477

Fiscal Year 1986

OCT	22327	13739	1425	437	5000
NOV	37931	10011	0	988	0
DEC	81382	10605	2451	263	5000
JAN	159150	10744	0	2402	0
FEB	6951	35585	0	1834	0
MAR	6411	13739	0	0	0
APR	34218	11010	80	2617	0
MAY	21732	3471	20	1753	0
JUN	27136	18021	0	0	12900
JUL	19717	12656	300	0	104
AUG	11439	13160	135	1975	-2000
SEP	9533	8111	0	-811	0

MONTHLY OPTAR OBLIGATION DATA
USS KIRK (FF-1087)

Fiscal Year 1985

MONTH	NR	NU	NV	NY	N2
OCT	10933	1781	0	0	3787
NOV	23218	1370	75	0	2122
DEC	31759	51	310	0	5709
JAN	38048	0	668	0	8231
FEB	37853	0	135	0	1121
MAR	31308	400	1250	24	15855
APR	24875	350	541	0	4431
MAY	22686	0	56	0	1131
JUN	31194	175	225	0	2135
JUL	14348	0	175	49	1012
AUG	33401	0	0	0	3083
SEP	13647	-731	0	0	6921

Fiscal Year 1986

OCT	15589	3400	330	0	2624
NOV	38828	175	75	0	2681
DEC	6983	900	195	0	2031
JAN	25932	0	150	0	2955
FEB	30612	0	365	0	7528
MAR	17090	0	100	0	14444
APR	13663	5050	0	0	-1677
MAY	14222	0	220	0	1736
JUN	20079	8188	100	83	4860
JUL	30632	4756	0	0	3515
AUG	12634	-4529	0	0	8312
SEP	31500	-4349	35	0	3726

MONTHLY OPTAR OBLIGATION DATA
USS KIRK (FF-1087)

Fiscal Year 1985

MONTH	N7	N9	NS	NB+NR	OTHER
OCT	2490	76	0	25504	22349
NOV	237	130	0	37092	15759
DEC	159	277	456	92841	20546
JAN	2360	741	318	57232	35239
FEB	30	216	0	61196	15675
MAR	0	191	140	35536	37430
APR	3322	599	0	54238	35358
MAY	61	254	0	63283	7946
JUN	61	208	0	72735	14179
JUL	534	81	30	64818	19392
AUG	3673	571	338	113965	33540
SEP	17909	86	200	90869	55756

Fiscal Year 1986

OCT	23	518	0	37916	27496
NOV	2048	1126	150	76759	17254
DEC	1162	9	152	88365	22768
JAN	311	350	58	185082	16970
FEB	1556	67	180	37563	47115
MAR	3	0	268	23501	28554
APR	-1404	-263	325	47881	15738
MAY	6808	309	139	35954	14456
JUN	-552	1200	92	47215	44892
JUL	1420	549	95	50349	23395
AUG	3056	821	111	24073	21041
SEP	377	24	0	41033	7113

APPENDIX C
MONTHLY EMPLOYMENT SCHEDULE DATA
USS JOUETT (CG-29)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBAOH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	1.0	0.0	0.0	0.0	0.0	0.0	25	0
NOV	0.0	1.0	0.0	0.0	0.0	0.0	0.0	22	7
DEC	0.0	0.7	0.0	0.0	0.0	0.3	0.0	17	11
JAN	0.0	0.0	0.0	0.0	0.3	0.7	0.0	4	19
FEB	0.3	0.0	0.0	0.0	0.7	0.0	0.0	6	4
MAR	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
APR	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
MAY	0.3	0.0	0.0	0.0	0.7	0.0	0.0	6	0
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	19	0
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	15	0
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	12	17
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	3	24

Fiscal Year 1986

MONTH	SRA	DEPL	POM	1MBAOH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	7	22
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5	22
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	4	23
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	4	23
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	6	16
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	16
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	14	14
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	12	8
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	24	0
JUL	0.0	0.0	0.9	0.0	0.1	0.0	0.0	2	24
AUG	0.0	0.1	0.1	0.0	0.8	0.0	0.0	23	2
SEP	0.0	1.0	0.0	0.0	0.0	0.0	0.0	16	5

MONTHLY EMPLOYMENT SCHEDULE DATA
USS JOUETT (CG-29)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
NOV	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
DEC	0.0	0.0	0.0	0.7	0.3	0.0	0.0	0.0
JAN	0.0	0.4	0.0	0.0	0.7	0.3	0.0	0.4
FEB	0.0	0.7	0.0	0.0	0.0	0.7	0.0	0.7
MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAY	0.0	0.7	0.0	0.0	0.0	0.7	0.0	0.7
JUN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUL	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
AUG	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
SEP	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0

Fiscal Year 1986

OCT	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
NOV	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
DEC	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JAN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUN	0.1	0.9	0.0	0.0	0.0	1.0	0.1	0.9
JUL	1.0	0.0	0.9	0.0	0.0	0.1	1.0	0.0
AUG	0.9	0.0	0.1	0.1	0.0	0.8	0.9	0.0
SEP	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0

MONTHLY EMPLOYMENT SCHEDULE DATA
USS HORNE (CG-30)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBACH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8	18
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	16	10
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	13
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8	15
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	18	0
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8	11
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	15	5
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	7
JUN	0.0	0.0	0.8	0.0	0.2	0.0	0.0	6	24
JUL	0.0	0.2	0.5	0.0	0.3	0.0	0.0	12	15
AUG	0.0	1.0	0.0	0.0	0.0	0.0	0.0	31	0
SEP	0.0	1.0	0.0	0.0	0.0	0.0	0.0	30	0

Fiscal Year 1986

MONTH	SRA	DEPL	POM	1MBACH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	1.0	0.0	0.0	0.0	0.0	0.0	31	0
NOV	0.0	1.0	0.0	0.0	0.0	0.0	0.0	25	5
DEC	0.0	0.7	0.0	0.0	0.0	0.3	0.0	18	9
JAN	0.0	0.0	0.0	0.0	0.3	0.7	0.0	0	29
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5	19
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5	17
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	0
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2	0
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	14	0
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	20	0
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	31
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5	12

MONTHLY EMPLOYMENT SCHEDULE DATA
USS HORNE (CG-30)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
NOV	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
DEC	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JAN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.2	0.8	0.0	0.0	0.0	1.0	0.2	0.8
JUN	1.0	0.0	0.8	0.0	0.0	0.2	1.0	0.0
JUL	0.8	0.0	0.5	0.2	0.0	0.3	0.8	0.0
AUG	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
SEP	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0

Fiscal Year 1986

OCT	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
NOV	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
DEC	0.0	0.0	0.0	0.7	0.3	0.0	0.0	0.0
JAN	0.0	0.3	0.0	0.0	0.7	0.3	0.0	0.3
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUL	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
AUG	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
SEP	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0

MONTHLY EMPLOYMENT SCHEDULE DATA
USS STERETT (CG-31)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	IMBAOH	LOPS	IMADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	19	7
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	19	4
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	17
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	4	27
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	18	10
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	22	3
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	17
MAY	0.0	0.0	0.4	0.0	0.6	0.0	0.0	2	29
JUN	0.0	0.8	0.2	0.0	0.0	0.0	0.0	20	10
JUL	0.0	1.0	0.0	0.0	0.0	0.0	0.0	30	0
AUG	0.0	1.0	0.0	0.0	0.0	0.0	0.0	27	0
SEP	0.5	0.5	0.0	0.0	0.0	0.0	0.0	10	0

Fiscal Year 1986

MONTH	SRA	DEPL	POM	IMBAOH	LOPS	IMADP	OVHL	U/W	UPK
OCT	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
NOV	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
DEC	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
JAN	0.5	0.0	0.0	0.0	0.5	0.0	0.0	11	0
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	17	5
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	19	5
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	30	0
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	6	20
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	15	2
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	29
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	16
SEP	0.3	0.0	0.0	0.0	0.7	0.0	0.0	10	7

MONTHLY EMPLOYMENT SCHEDULE DATA
USS STERETT (CG-31)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	1.0	0.0	0.8	0.0	0.2	0.0	0.2
NOV	0.0	1.0	0.0	0.8	0.0	0.2	0.0	0.2
DEC	0.0	1.0	0.0	0.4	0.0	0.6	0.0	0.6
JAN	0.0	1.0	0.0	0.1	0.0	0.9	0.0	0.9
FEB	0.0	1.0	0.0	0.7	0.0	0.3	0.0	0.3
MAR	0.0	1.0	0.0	0.9	0.0	0.1	0.0	0.1
APR	0.8	0.2	0.0	0.6	0.0	0.4	0.0	0.4
MAY	1.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0
JUN	0.2	0.0	0.0	0.7	0.0	0.3	0.0	0.3
JUL	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
AUG	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
SEP	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0

Fiscal Year 1986

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NOV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JAN	0.0	0.5	0.0	0.2	0.0	0.3	0.0	0.3
FEB	0.0	1.0	0.0	0.7	0.0	0.3	0.0	0.3
MAR	0.0	1.0	0.0	0.8	0.0	0.2	0.0	0.2
APR	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
MAY	0.0	1.0	0.0	0.3	0.0	0.7	0.0	0.7
JUN	0.0	1.0	0.0	0.8	0.0	0.2	0.0	0.2
JUL	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
AUG	0.0	1.0	0.0	0.4	0.0	0.6	0.0	0.6
SEP	0.0	1.0	0.0	0.2	0.0	0.5	0.0	0.5

MONTHLY EMPLOYMENT SCHEDULE DATA
USS W. H. STANDLEY (CG-32)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBACH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	*	0
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	*	0
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	4	21
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	31
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	6	21
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	12
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5	18
MAY	0.5	0.0	0.0	0.0	0.5	0.0	0.0	2	13
JUN	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
JUL	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	7	5
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	14	8

Fiscal Year 1986

MONTH	SRA	DEPL	POM	1MBACH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	14	9
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	12	12
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	16
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	4	24
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	7	7
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2	17
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	18	12
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	4	17
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	23	0
JUL	0.0	0.0	0.1	0.0	0.9	0.0	0.0	6	22
AUG	0.0	0.1	0.7	0.0	0.0	0.0	0.0	4	27
SEP	0.0	1.0	0.0	0.0	0.0	0.0	0.0	10	0

MONTHLY EMPLOYMENT SCHEDULE DATA
USS W. H. STANDLEY (CG-32)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
NOV	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
DEC	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JAN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.5
JUN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
SEP	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0

Fiscal Year 1986

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
NOV	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
DEC	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JAN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUN	0.1	0.9	0.0	0.0	0.0	1.0	0.1	0.9
JUL	1.0	0.0	0.1	0.0	0.0	0.9	1.0	0.0
AUG	0.9	0.0	0.7	0.1	0.0	0.0	0.9	0.0
SEP	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0

MONTHLY EMPLOYMENT SCHEDULE DATA
USS FOX (CG-33)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBAOH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2	28
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	17	7
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2	19
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	14	8
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	19	0
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	20	0
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	23	0
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	19
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	6	24
JUL	0.0	0.2	0.7	0.0	0.1	0.0	0.0	9	20
AUG	0.0	1.0	0.0	0.0	0.0	0.0	0.0	23	5
SEP	0.0	1.0	0.0	0.0	0.0	0.0	0.0	26	0

Fiscal Year 1986

OCT	0.0	1.0	0.0	0.0	0.0	0.0	0.0	30	0
NOV	0.0	1.0	0.0	0.0	0.0	0.0	0.0	26	5
DEC	0.0	0.7	0.0	0.0	0.0	0.3	0.0	19	10
JAN	0.0	0.0	0.0	0.0	0.1	0.9	0.0	2	26
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2	11
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	0
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	0
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	3	26
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5	17
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	14
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2	29
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	21	3

MONTHLY EMPLOYMENT SCHEDULE DATA
USS FOX (CG-33)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
NOV	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
DEC	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JAN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.2	0.8	0.0	0.0	0.0	1.0	0.2	0.8
JUN	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0
JUL	0.8	0.0	0.7	0.2	0.0	0.1	0.8	0.0
AUG	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
SEP	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0

Fiscal Year 1986

OCT	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
NOV	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
DEC	0.0	0.0	0.0	0.7	0.3	0.0	0.0	0.0
JAN	0.0	0.1	0.0	0.0	0.9	0.1	0.0	0.1
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUL	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
AUG	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
SEP	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0

MONTHLY EMPLOYMENT SCHEDULE DATA
USS KNOX (FF-1052)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBACH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	15	9
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	23	6
DEC	0.5	0.0	0.0	0.0	0.5	0.0	0.0	7	19
JAN	0.8	0.0	0.0	0.0	0.2	0.0	0.0	0	31
FEB	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	28
MAR	0.3	0.0	0.0	0.0	0.7	0.0	0.0	9	10
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	6	19
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	16	14
JUN	0.0	0.7	0.2	0.0	0.1	0.0	0.0	18	2
JUL	0.0	1.0	0.0	0.0	0.0	0.0	0.0	30	0
AUG	0.0	1.0	0.0	0.0	0.0	0.0	0.0	29	0
SEP	0.0	1.0	0.0	0.0	0.0	0.0	0.0	24	0

Fiscal Year 1986

OCT	0.0	0.5	0.0	0.0	0.0	0.5	0.0	9	24
NOV	0.0	0.0	0.0	0.0	0.9	0.1	0.0	16	4
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	19
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5	25
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	21	0
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	23	0
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5	20
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	15
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	16	11
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	8
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	17
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	7	17

MONTHLY EMPLOYMENT SCHEDULE DATA
USS KNOX (FF-1052)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	1.0	0.0	0.8	0.0	0.2	0.0	0.2
NOV	0.0	1.0	0.0	0.8	0.0	0.2	0.0	0.2
DEC	0.0	0.5	0.0	0.4	0.0	0.1	0.0	0.1
JAN	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.2
FEB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAR	0.0	0.7	0.0	0.4	0.0	0.3	0.0	0.3
APR	0.7	0.7	0.0	0.6	0.0	0.4	0.0	0.4
MAY	1.0	0.0	0.0	0.5	0.0	0.5	0.0	0.5
JUN	0.3	0.0	0.0	0.6	0.0	0.4	0.0	0.4
JUL	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
AUG	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
SEP	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0

Fiscal Year 1986

OCT	0.0	0.0	0.0	0.3	0.0	0.7	0.0	0.7
NOV	0.0	0.9	0.0	0.9	0.0	0.1	0.0	0.1
DEC	0.0	1.0	0.0	0.3	0.0	0.7	0.0	0.7
JAN	0.0	1.0	0.0	0.5	0.0	0.5	0.0	0.5
FEB	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
MAR	0.0	1.0	0.0	0.9	0.0	0.1	0.0	0.1
APR	0.0	1.0	0.0	0.3	0.0	0.7	0.0	0.7
MAY	0.0	1.0	0.0	0.5	0.0	0.5	0.0	0.5
JUN	0.0	1.0	0.0	0.6	0.0	0.4	0.0	0.4
JUL	0.0	1.0	0.0	0.7	0.0	0.3	0.0	0.3
AUG	0.0	1.0	0.0	0.5	0.0	0.5	0.0	0.5
SEP	0.0	1.0	0.0	0.4	0.0	0.6	0.0	0.6

MONTHLY EMPLOYMENT SCHEDULE DATA
USS WHIPPLE (FF-1062)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBAOH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
NOV	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
DEC	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
JAN	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
FEB	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
MAR	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2	0
APR	0.0	0.0	0.0	0.5	0.0	0.0	0.5	1	9
MAY	0.0	0.0	0.0	0.5	0.5	0.0	0.0	15	6
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	14	0
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	21	0
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	12
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5	22

Fiscal Year 1986

MONTH	SRA	DEPL	POM	1MBAOH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1	20
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	19
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	30
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	17
FEB	0.0	0.0	0.4	0.0	0.6	0.0	0.0	6	16
MAR	0.0	0.1	0.8	0.0	0.1	0.0	0.0	9	23
APR	0.0	1.0	0.0	0.0	0.0	0.0	0.0	19	10
MAY	0.0	1.0	0.0	0.0	0.0	0.0	0.0	26	0
JUN	0.0	1.0	0.0	0.0	0.0	0.0	0.0	26	0
JUL	0.0	1.0	0.0	0.0	0.0	0.0	0.0	25	0
AUG	0.0	1.0	0.0	0.0	0.0	0.0	0.0	18	2
SEP	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0	30

MONTHLY EMPLOYMENT SCHEDULE DATA
USS WHIPPLE (FF-1062)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NOV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAY	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.5
JUN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUL	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
AUG	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
SEP	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0

Fiscal Year 1986

OCT	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
NOV	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
DEC	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JAN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
FEB	0.1	0.9	0.4	0.0	0.0	0.6	0.1	0.9
MAR	1.0	0.0	0.8	0.1	0.0	0.1	1.0	0.0
APR	0.9	0.0	0.0	1.0	0.0	0.0	0.9	0.0
MAY	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
JUN	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
JUL	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
AUG	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0

MONTHLY EMPLOYMENT SCHEDULE DATA
USS LOCKWOOD (FF-1064)

Fiscal Year 1985

MONTH	SRA	DEPL	FOM	IMBACH	LOPS	IMADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	19
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	26	0
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	6	19
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5	24
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	19	5
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	20	6
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	4	26
MAY	0.0	0.0	0.0	0.3	0.7	0.0	0.0	10	13
JUN	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0	30
JUL	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
AUG	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
SEP	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0

Fiscal Year 1986

MONTH	SRA	DEPL	FOM	IMBACH	LOPS	IMADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
NOV	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3	0
DEC	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2	0
JAN	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
FEB	0.0	0.0	0.0	1.0	0.0	0.0	0.0	6	9
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	19	5
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	19	9
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	16	11
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	13	13
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	8
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	20
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	16

MONTHLY EMPLOYMENT SCHEDULE DATA
USS LOCKWOOD (FF-1064)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	1.0	0.0	0.5	0.0	0.5	0.0	0.5
NOV	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
DEC	0.0	1.0	0.0	0.4	0.0	0.6	0.0	0.6
JAN	0.0	1.0	0.0	0.1	0.0	0.9	0.0	0.9
FEB	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
MAR	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
APR	0.0	1.0	0.0	0.3	0.0	0.7	0.0	0.7
MAY	0.0	0.7	0.0	0.6	0.0	0.1	0.0	0.1
JUN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Fiscal Year 1986

OCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NOV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAR	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
APR	0.0	1.0	0.0	0.7	0.0	0.3	0.0	0.3
MAY	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
JUN	0.0	1.0	0.0	0.7	0.0	0.3	0.0	0.3
JUL	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
AUG	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
SEP	0.0	1.0	0.0	0.5	0.0	0.5	0.0	0.5

MONTHLY EMPLOYMENT SCHEDULE DATA
USS STEIN (FF-1065)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBACH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8	20
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8	16
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1	30
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	31
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8	18
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	13	13
APR	0.3	0.0	0.0	0.0	0.7	0.0	0.0	6	21
MAY	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	31
JUN	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	30
JUL	0.6	0.0	0.0	0.0	0.4	0.0	0.0	6	24
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	19	0
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	22	0

Fiscal Year 1986

OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8	23
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	13	6
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	16
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	15
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	9
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	22
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	30
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	30
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	7	15
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8	16
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	6	10
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	17	2

MONTHLY EMPLOYMENT SCHEDULE DATA
USS STEIN (FF-1065)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
NOV	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
DEC	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JAN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	0.7	0.0	0.0	0.0	0.7	0.0	0.7
MAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.4
AUG	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
SEP	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0

Fiscal Year 1986

OCT	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
NOV	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
DEC	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JAN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUL	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
AUG	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
SEP	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0

MONTHLY EMPLOYMENT SCHEDULE DATA
USS F. HAMMOND (FF-1067)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBACH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
NOV	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
DEC	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
JAN	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
FEB	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
MAR	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
APR	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0	0
MAY	0.0	0.0	0.0	0.0	0.0	0.0	1.0	6	0
JUN	0.0	0.0	0.0	0.5	0.0	0.0	0.5	3	5
JUL	0.0	0.0	0.0	0.5	0.5	0.0	0.0	24	0
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	13	15
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	16

Fiscal Year 1986

OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	16	1
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	17	6
DEC	0.0	0.0	0.4	0.0	0.6	0.0	0.0	7	14
JAN	0.0	0.8	0.2	0.0	0.0	0.0	0.0	13	11
FEB	0.0	1.0	0.0	0.0	0.0	0.0	0.0	30	0
MAR	0.0	1.0	0.0	0.0	0.0	0.0	0.0	26	0
APR	0.0	0.2	0.0	0.0	0.0	0.8	0.0	10	20
MAY	0.0	0.0	0.0	0.0	0.8	0.2	0.0	3	25
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	27	1
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8	18
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	17	10
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	6	1

MONTHLY EMPLOYMENT SCHEDULE DATA
USS F. HAMMOND (FF-1067)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NOV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DEC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
APR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
AUG	0.0	0.5	0.0	0.5	0.0	0.5	0.0	0.5
SEP	0.0	1.0	0.0	0.3	0.0	0.7	0.0	0.7

Fiscal Year 1986

OCT	0.0	1.0	0.0	0.9	0.0	0.1	0.0	0.1
NOV	0.8	0.2	0.0	1.0	0.0	0.0	0.0	0.0
DEC	1.0	0.0	0.0	0.6	0.0	0.4	0.0	0.4
JAN	0.2	0.0	0.0	0.8	0.0	0.2	0.0	0.2
FEB	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
MAR	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
APR	0.0	0.0	0.0	0.3	0.0	0.7	0.0	0.7
MAY	0.0	0.8	0.0	0.2	0.0	0.8	0.0	0.8
JUN	0.0	1.0	0.0	0.9	0.0	0.1	0.0	0.1
JUL	0.0	1.0	0.0	0.4	0.0	0.6	0.0	0.6
AUG	0.0	1.0	0.0	0.6	0.0	0.4	0.0	0.4
SEP	0.0	1.0	0.0	0.4	0.0	0.6	0.0	0.6

MONTHLY EMPLOYMENT SCHEDULE DATA
USS DOWNES (FF-1070)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBACH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.4	0.6	0.0	0.0	0.0	0.0	11	17
NOV	0.0	1.0	0.0	0.0	0.0	0.0	0.0	25	0
DEC	0.0	1.0	0.0	0.0	0.0	0.0	0.0	13	13
JAN	0.0	1.0	0.0	0.0	0.0	0.0	0.0	29	0
FEB	0.0	1.0	0.0	0.0	0.0	0.0	0.0	20	0
MAR	0.0	1.0	0.0	0.0	0.0	0.0	0.0	29	0
APR	0.0	1.0	0.0	0.0	0.0	0.0	0.0	23	0
MAY	0.0	0.8	0.0	0.0	0.0	0.2	0.0	21	7
JUN	0.0	0.0	0.0	0.0	0.2	0.8	0.0	0	30
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	19
AUG	0.4	0.0	0.0	0.0	0.6	0.0	0.0	7	16
SEP	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	30

Fiscal Year 1986

MONTH	SRA	DEPL	POM	1MBACH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.6	0.0	0.0	0.0	0.4	0.0	0.0	7	16
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	17
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8	20
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	14	10
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	28
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	4	25
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	21	6
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	12	17
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	0
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	20
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	3	26
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	20	2

MONTHLY EMPLOYMENT SCHEDULE DATA
USS DOWNES (FF-1070)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.6	0.0	0.6	0.4	0.0	0.0	0.6	0.0
NOV	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
DEC	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
JAN	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
FEB	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
MAR	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
APR	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
MAY	0.0	0.0	0.0	0.8	0.2	0.0	0.0	0.0
JUN	0.0	0.2	0.0	0.0	0.8	0.2	0.0	0.2
JUL	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
AUG	0.0	1.0	0.0	0.0	0.0	0.6	0.0	1.0
SEP	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0

Fiscal Year 1986

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	1.0	0.0	0.0	0.0	0.4	0.0	1.0
NOV	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
DEC	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JAN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUL	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
AUG	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
SEP	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0

MONTHLY EMPLOYMENT SCHEDULE DATA
USS BADGER (FF-1071)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBAOH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.8	0.0	0.2	0.0	0.0	9	21
NOV	0.0	0.8	0.0	0.0	0.2	0.0	0.0	24	0
DEC	0.0	0.7	0.0	0.0	0.0	0.3	0.0	12	16
JAN	0.0	0.0	0.0	0.0	0.8	0.2	0.0	15	12
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	7	21
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	10
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	8	22
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	18	7
JUN	0.0	0.0	0.5	0.0	0.5	0.0	0.0	15	14
JUL	0.0	0.0	0.8	0.0	0.2	0.0	0.0	3	28
AUG	0.0	0.0	0.3	0.0	0.7	0.0	0.0	21	6
SEP	0.0	1.0	0.0	0.0	0.0	0.0	0.0	30	0

Fiscal Year 1986

MONTH	SRA	DEPL	POM	1MBAOH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	1.0	0.0	0.0	0.0	0.0	0.0	31	0
NOV	0.0	1.0	0.0	0.0	0.0	0.0	0.0	25	5
DEC	0.0	0.4	0.0	0.0	0.0	0.6	0.0	10	20
JAN	0.0	0.0	0.0	0.0	0.6	0.4	0.0	0	31
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	14
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1	30
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	12	8
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	14	10
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	13	16
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	14	0
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	14
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2	23

MONTHLY EMPLOYMENT SCHEDULE DATA
USS BADGER (FF-1071)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	1.0	0.0	0.8	0.0	0.0	0.2	1.0	0.0
NOV	0.2	0.0	0.0	0.8	0.0	0.2	0.2	0.0
DEC	0.0	0.0	0.0	0.7	0.3	0.0	0.0	0.0
JAN	0.0	0.8	0.0	0.0	0.2	0.8	0.0	0.8
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUN	0.0	1.0	0.5	0.0	0.0	0.5	0.0	1.0
JUL	1.0	0.0	0.8	0.0	0.0	0.2	1.0	0.0
AUG	1.0	0.0	0.3	0.0	0.0	0.7	1.0	0.0
SEP	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0

Fiscal Year 1986

OCT	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
NOV	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
DEC	0.0	0.0	0.0	0.4	0.6	0.0	0.0	0.0
JAN	0.0	0.6	0.0	0.0	0.4	0.6	0.0	0.6
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUL	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
AUG	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
SEP	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0

MONTHLY EMPLOYMENT SCHEDULE DATA
USS FANNING (FF-1076)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBACH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	25	0
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	9
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	7	22
JAN	0.0	0.0	0.2	0.0	0.8	0.0	0.0	11	19
FEB	0.0	0.3	0.7	0.0	0.0	0.0	0.0	8	19
MAR	0.0	1.0	0.0	0.0	0.0	0.0	0.0	22	4
APR	0.0	1.0	0.0	0.0	0.0	0.0	0.0	14	1
MAY	0.0	1.0	0.0	0.0	0.0	0.0	0.0	22	0
JUN	0.0	1.0	0.0	0.0	0.0	0.0	0.0	30	0
JUL	0.0	1.0	0.0	0.0	0.0	0.0	0.0	24	0
AUG	0.0	0.8	0.0	0.0	0.0	0.2	0.0	29	8
SEP	0.0	0.0	0.0	0.0	0.2	0.8	0.0	7	23

Fiscal Year 1986

MONTH	SRA	DEPL	POM	1MBACH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	25	0
NOV	0.4	0.0	0.0	0.0	0.6	0.0	0.0	1	29
DEC	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	31
JAN	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	31
FEB	0.4	0.0	0.0	0.0	0.6	0.0	0.0	7	13
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	19
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	12	14
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	11	17
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	0
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	10	19
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0	31
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	18	3

MONTHLY EMPLOYMENT SCHEDULE DATA
USS FANNING (FF-1076)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
NOV	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
DEC	0.3	0.7	0.0	0.0	0.0	1.0	0.3	0.7
JAN	1.0	0.0	0.2	0.0	0.0	0.8	1.0	0.0
FEB	0.7	0.0	0.7	0.3	0.0	0.0	0.7	0.0
MAR	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
APR	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
MAY	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
JUN	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
JUL	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
AUG	0.0	0.0	0.0	0.8	0.2	0.0	0.0	0.0
SEP	0.0	0.2	0.0	0.0	0.8	0.2	0.0	0.2

Fiscal Year 1986

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
NOV	0.0	0.6	0.0	0.0	0.0	0.6	0.0	0.6
DEC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FEB	0.0	0.6	0.0	0.0	0.0	0.6	0.0	0.6
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUN	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
JUL	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
AUG	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
SEP	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0

MONTHLY EMPLOYMENT SCHEDULE DATA
USS COOK (FF-1083)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	1MBAOH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	0.0	0.0	0.0	1.0	0.0	0.0	16	13
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	7	21
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2	25
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	20
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	9	19
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	16	5
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	15	21
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	13	15
JUN	0.0	0.0	0.8	0.0	0.2	0.0	0.0	6	23
JUL	0.0	0.2	0.8	0.0	0.0	0.0	0.0	8	21
AUG	0.0	1.0	0.0	0.0	0.0	0.0	0.0	26	5
SEP	0.0	1.0	0.0	0.0	0.0	0.0	0.0	29	0

Fiscal Year 1986

MONTH	SRA	DEPL	POM	1MBAOH	LOPS	1MADP	OVHL	U/W	UPK
OCT	0.0	1.0	0.0	0.0	0.0	0.0	0.0	31	0
NOV	0.0	1.0	0.0	0.0	0.0	0.0	0.0	25	5
DEC	0.0	0.7	0.0	0.0	0.0	0.3	0.0	18	1
JAN	0.0	0.0	0.0	0.0	0.3	0.7	0.0	7	7
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1	24
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	13	13
APR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5	21
MAY	0.9	0.0	0.0	0.0	0.1	0.0	0.0	2	26
JUN	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	30
JUL	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1	30
AUG	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	31
SEP	0.5	0.0	0.0	0.0	0.5	0.0	0.0	9	14

MONTHLY EMPLOYMENT SCHEDULE DATA
USS COOK (FF-1083)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
NOV	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
DEC	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
JAN	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
FEB	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
MAR	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
APR	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
MAY	0.2	0.8	0.0	0.0	0.0	1.0	0.2	0.8
JUN	1.0	0.0	0.8	0.0	0.0	0.2	1.0	0.0
JUL	0.8	0.0	0.8	0.2	0.0	0.0	0.8	0.0
AUG	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
SEP	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0

Fiscal Year 1986

MONTH	POM2M	LOPS2M	POMF	DEPLF	1MADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
NOV	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
DEC	0.0	0.0	0.0	0.7	0.3	0.0	0.0	0.0
JAN	0.0	0.3	0.0	0.0	0.7	0.3	0.0	0.3
FEB	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
APR	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
MAY	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
JUN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JUL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AUG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEP	0.0	0.5	0.0	0.0	0.0	0.5	0.5	0.5

MONTHLY EMPLOYMENT SCHEDULE DATA
USS KIRK (FF-1087)

Fiscal Year 1985

MONTH	SRA	DEPL	POM	IMSACH	LOPS	IMADP	OVHL	U/W	UPK
OCT	0.3	0.0	0.0	0.0	0.7	0.0	0.0	8	16
NOV	0.0	0.0	0.0	0.0	1.0	0.0	0.0	24	0
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	7	19
JAN	0.4	0.0	0.0	0.0	0.6	0.0	0.0	7	19
FEB	0.0	0.0	0.0	0.0	1.0	0.0	0.0	23	0
MAR	0.0	0.0	0.0	0.0	1.0	0.0	0.0	21	5
APR	0.0	0.0	0.3	0.0	0.7	0.0	0.0	16	11
MAY	0.0	0.5	0.5	0.0	0.0	0.0	0.0	15	15
JUN	0.0	1.0	0.0	0.0	0.0	0.0	0.0	18	12
JUL	0.0	1.0	0.0	0.0	0.0	0.0	0.0	31	0
AUG	0.0	1.0	0.0	0.0	0.0	0.0	0.0	25	0
SEP	0.0	1.0	0.0	0.0	0.0	0.0	0.0	20	0

Fiscal Year 1986

MONTH	SRA	DEPL	POM	IMSACH	LOPS	IMADP	OVHL	U/W	UPK
OCT	0.0	0.6	0.0	0.0	0.0	0.4	0.0	17	13
NOV	0.0	0.0	0.0	0.0	0.4	0.6	0.0	16	0
DEC	0.0	0.0	0.0	0.0	1.0	0.0	0.0	21	12
JAN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	25	3
FEB	0.9	0.0	0.0	0.0	0.1	0.0	0.0	1	26
MAR	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0	31
APR	0.4	0.0	0.0	0.0	0.6	0.0	0.0	4	21
MAY	0.0	0.0	0.0	0.0	1.0	0.0	0.0	16	12
JUN	0.0	0.0	0.0	0.0	1.0	0.0	0.0	15	7
JUL	0.0	0.0	0.0	0.0	1.0	0.0	0.0	21	0
AUG	0.0	0.0	0.0	0.0	1.0	0.0	0.0	20	2
SEP	0.0	0.0	0.0	0.0	1.0	0.0	0.0	7	22

MONTHLY EMPLOYMENT SCHEDULE DATA
USS KIRK (FF-1087)

Fiscal Year 1985

MONTH	POM2M	LOPS2M	POMF	DEPLF	IMADPF	LOPSF	POM2MF	LOPS2MF
OCT	0.0	0.7	0.0	0.7	0.0	0.3	0.0	0.3
NOV	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
DEC	0.0	1.0	0.0	0.4	0.0	0.6	0.0	0.6
JAN	0.0	0.6	0.0	0.6	0.0	0.4	0.0	0.4
FEB	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
MAR	0.5	0.5	0.0	0.8	0.0	0.2	0.0	0.2
APR	1.0	0.0	0.0	0.5	0.0	0.5	0.0	0.5
MAY	0.5	0.0	0.0	0.5	0.0	0.5	0.0	0.5
JUN	0.0	0.0	0.0	0.8	0.0	0.2	0.0	0.2
JUL	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
AUG	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
SEP	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0

Fiscal Year 1986

OCT	0.0	0.0	0.0	0.7	0.0	0.3	0.0	0.3
NOV	0.0	0.4	0.0	0.8	0.0	0.2	0.0	0.2
DEC	0.0	1.0	0.0	0.6	0.0	0.4	0.0	0.4
JAN	0.0	1.0	0.0	0.9	0.0	0.1	0.0	0.1
FEB	0.0	1.0	0.0	0.0	0.0	0.1	0.0	0.1
MAR	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
APR	0.0	1.0	0.0	0.1	0.0	0.5	0.0	0.5
MAY	0.0	1.0	0.0	0.6	0.0	0.4	0.0	0.4
JUN	0.0	1.0	0.0	0.6	0.0	0.4	0.0	0.4
JUL	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0
AUG	0.0	1.0	0.0	0.9	0.0	0.1	0.0	0.1
SEP	0.0	1.0	0.0	0.2	0.0	0.8	0.0	0.8

APPENDIX D
COEFFICIENT OF DETERMINATION
ORIGINAL DATA
BELKNAP (CG-26) CLASS CRUISER

FUND CODE	DATA SETS A	B	C	D	E	F	G	H
NB	9.1	9.1	7.7	7.8	8.5	8.5	7.5	7.5
NC	8.7	5.4	7.9	5.1	8.8	6.4	8.2	6.3
ND	10.3	10.3	14.7	14.7	9.5	9.6	13.2	13.2
NE	3.4	5.0	2.9	1.5	4.5	5.8	4.4	3.0
NK	5.5	5.7	12.4	12.4	4.8	5.1	11.0	11.1
NR	18.7	16.2	23.3	21.6	18.1	15.6	22.3	20.6
NS	16.0	15.6	13.4	13.3	16.0	15.5	13.3	13.2
NU	8.2	7.8	9.6	9.5	10.0	9.7	11.8	11.8
NV	7.8	7.3	7.8	7.2	7.2	6.7	7.1	6.5
NY	9.7	4.8	10.3	5.6	10.3	5.3	10.5	5.6
N2	6.6	19.1	7.3	6.7	6.7	20.2	7.4	7.8
N7	9.7	4.4	9.8	3.9	2.6	3.4	2.5	2.4
N9	4.1	9.9	3.4	26.1	4.0	10.2	3.2	28.2
NB+NR	14.2	13.5	13.8	13.3	13.5	12.7	13.2	12.6
OTHER	9.7	9.3	11.1	7.7	9.7	9.3	11.1	7.7
ALL	12.8	11.2	11.7	10.3	12.1	10.5	11.3	9.9

A - Initial Employment Categories
B - Employment Categories with a Two-Month POM
C - Employment Categories modified for Foreign Ships
D - Employment Categories modified for Foreign Ships with a Two-Month POM
E - Initial Employment Categories with Negatives Removed
F - Employment Categories with a Two-Month POM and Negatives Removed
G - Employment Categories modified for Foreign Ships with Negatives Removed
H - Employment Categories modified for Foreign Ships with a Two-Month POM and Negatives Removed

COEFFICIENT OF DETERMINATION
DATA WITHOUT THE FIRST MONTH
BELKNAP (CG-26) CLASS CRUISER

FUND CODE	DATA SETS A	B	C	D	E	F	G	H
NB	10.3	10.2	8.2	8.3	9.3	9.2	7.6	7.7
NC	8.7	5.3	8.1	5.2	8.8	6.5	8.4	6.5
ND	9.0	9.0	15.4	15.4	8.2	8.2	13.8	13.8
NE	3.3	5.0	2.7	1.4	4.3	5.6	4.1	2.7
NK	6.9	7.1	14.9	14.9	6.2	6.5	13.4	13.4
NR	24.7	21.5	25.8	23.9	23.5	20.3	24.8	22.9
NS	22.6	23.0	20.5	21.4	22.5	22.8	20.4	21.1
NU	5.9	5.2	7.6	7.6	4.4	3.3	7.3	7.3
NV	8.4	7.8	8.4	7.7	7.8	7.2	7.7	7.1
NY	11.3	6.4	12.0	7.1	12.6	7.4	12.5	7.3
N2	8.1	22.9	8.8	8.2	8.3	24.5	8.8	9.6
N7	10.2	4.8	10.4	4.3	3.0	3.8	3.0	2.7
N9	4.4	10.7	3.9	27.9	4.2	10.9	3.9	30.1
NB+NR	17.4	16.5	15.2	14.6	16.0	15.1	14.3	13.7
OTHER	9.8	9.6	11.1	7.6	9.8	9.6	11.1	7.6
ALL	15.1	13.2	12.7	11.1	13.9	12.1	12.1	10.5

A - Initial Employment Categories
B - Employment Categories with a Two-Month POM
C - Employment Categories modified for Foreign Ships
D - Employment Categories modified for Foreign Ships with a Two-Month POM
E - Initial Employment Categories with Negatives Removed
F - Employment Categories with a Two-Month POM and Negatives Removed
G - Employment Categories modified for Foreign Ships with Negatives Removed
H - Employment Categories modified for Foreign Ships with a Two-Month POM and Negatives Removed

COEFFICIENT OF DETERMINATION
DATA WITHOUT THE LAST MONTH
BELKNAP (CG-26) CLASS CRUISER

FUND CODE	DATA SETS A	B	C	D	E	F	G	H
NB	8.8	8.8	8.2	8.3	8.8	8.8	8.2	8.3
NC	8.7	5.2	8.5	5.4	9.2	6.6	8.7	6.7
ND	6.7	6.9	10.5	10.6	5.5	5.8	9.6	9.7
NE	5.3	3.7	5.0	3.2	7.3	5.4	7.1	5.5
NK	4.1	4.5	8.4	8.4	3.4	4.0	7.6	7.8
NR	17.2	14.5	20.2	18.4	17.2	14.5	20.2	18.4
NS	17.1	16.5	15.6	15.4	17.3	16.6	15.7	15.5
NU	7.3	7.1	8.4	8.2	9.7	9.6	11.0	11.0
NV	6.8	6.2	6.8	6.1	6.3	5.7	6.2	5.6
NY	11.1	6.4	11.8	7.0	12.7	7.7	12.4	7.5
N2	8.5	7.8	9.1	8.4	8.3	8.5	9.1	10.0
N7	12.5	5.0	12.3	5.2	4.1	4.1	3.9	4.1
N9	3.9	26.9	3.9	28.2	3.8	29.1	3.6	30.2
NB+NR	13.1	12.4	12.6	12.0	13.1	12.4	12.6	12.0
OTHER	10.9	6.6	12.8	9.0	10.9	6.6	12.8	9.0
ALL	12.7	10.8	11.8	10.3	12.7	10.8	11.8	10.3

A - Initial Employment Categories
B - Employment Categories with a Two-Month POM
C - Employment Categories modified for Foreign Ships
D - Employment Categories modified for Foreign Ships with a Two-Month POM
E - Initial Employment Categories with Negatives Removed
F - Employment Categories with a Two-Month POM and Negatives Removed
G - Employment Categories modified for Foreign Ships with Negatives Removed
H - Employment Categories modified for Foreign Ships with a Two-Month POM and Negatives Removed

COEFFICIENT OF DETERMINATION
DATA WITHOUT THE FIRST AND LAST MONTH
BELKNAP (CG-26) CLASS CRUISER

FUND CODE	DATA SETS A	B	C	D	E	F	G	H
NB	9.3	9.4	8.1	8.1	9.3	9.4	8.1	8.1
NC	9.0	5.5	9.1	5.9	9.5	7.0	9.3	7.3
ND	4.3	4.7	10.0	10.1	3.1	3.6	9.2	9.3
NE	5.1	3.6	4.8	3.0	7.0	5.1	6.9	5.2
NK	5.2	5.6	11.1	11.1	4.4	4.9	10.2	10.3
NR	24.1	20.3	23.6	21.8	24.1	20.3	23.6	21.8
NS	26.2	26.8	25.9	27.1	26.3	26.7	25.9	27.0
NU	3.4	2.6	4.7	4.4	3.8	3.4	5.9	5.8
NV	7.2	6.6	7.2	6.4	6.6	6.0	6.5	5.9
NY	13.8	9.1	14.1	9.2	16.9	11.9	15.3	10.2
N2	11.6	11.0	11.8	11.2	11.3	12.0	11.7	13.4
N7	13.1	5.5	12.8	5.6	4.9	4.8	4.5	4.5
N9	4.4	28.7	4.7	30.6	4.1	30.9	4.3	32.7
NB+NR	15.7	14.8	13.6	13.0	15.7	14.8	13.6	13.0
OTHER	11.5	7.1	13.2	9.3	11.5	7.1	13.2	9.3
ALL	14.5	12.3	12.6	10.9	14.5	12.3	12.6	10.9

A - Initial Employment Categories
B - Employment Categories with a Two-Month POM
C - Employment Categories modified for Foreign Ships
D - Employment Categories modified for Foreign Ships with a Two-Month POM
E - Initial Employment Categories with Negatives Removed
F - Employment Categories with a Two-Month POM and Negatives Removed
G - Employment Categories modified for Foreign Ships with Negatives Removed
H - Employment Categories modified for Foreign Ships with a Two-Month POM and Negatives Removed

COEFFICIENT OF DETERMINATION
ORIGINAL DATA
KNOX (FF-1052) CLASS FRIGATE

FUND CODE	DATA SETS A	B	C	D	E	F	G	H
NB	1.8	1.8	2.6	2.6	2.5	2.5	3.5	3.1
NC	5.6	5.5	5.9	5.9	11.1	10.8	11.2	11.3
ND	6.2	6.1	9.5	9.5	6.6	6.3	10.6	10.5
NE	1.9	2.9	2.0	2.8	6.1	10.9	6.0	8.8
NK	10.5	11.0	12.0	11.8	10.9	11.4	12.6	12.3
NR	3.7	3.4	6.2	6.2	3.7	3.3	7.5	7.3
NS	4.6	8.8	4.9	10.5	5.5	9.6	6.0	11.8
NU	3.2	3.5	3.3	3.4	3.4	3.8	3.5	3.6
NV	2.9	3.5	3.4	3.5	4.9	5.4	5.6	5.1
NY	5.8	6.2	5.8	6.8	6.4	6.8	6.4	7.5
N2	7.9	8.0	7.8	7.7	8.5	8.5	8.4	8.3
N7	2.4	2.5	2.8	2.6	3.8	4.2	4.2	4.1
N9	4.9	5.3	6.8	7.7	4.1	4.2	5.0	5.7
NB+NR	2.3	2.4	2.7	3.0	3.9	4.1	4.7	4.6
OTHER	4.0	3.8	4.6	4.4	9.6	9.6	10.4	10.1
ALL	1.4	1.5	1.8	2.0	4.1	4.3	4.8	4.7

A - Initial Employment Categories
B - Employment Categories with a Two-Month POM
C - Employment Categories modified for Foreign Ships
D - Employment Categories modified for Foreign Ships with a Two-Month POM
E - Initial Employment Categories with Negatives Removed
F - Employment Categories with a Two-Month POM and Negatives Removed
G - Employment Categories modified for Foreign Ships with Negatives Removed
H - Employment Categories modified for Foreign Ships with a Two-Month POM and Negatives Removed

COEFFICIENT OF DETERMINATION
DATA WITHOUT THE FIRST MONTH
KNOX (FF-1052) CLASS FRIGATE

FUND CODE	DATA SETS A	B	C	D	E	F	G	H
NB	2.6	2.5	3.1	3.1	3.7	3.6	4.3	4.0
NC	4.8	4.8	5.1	5.1	10.2	10.3	10.2	10.5
ND	6.5	6.4	11.2	11.6	6.3	6.1	11.9	12.2
NE	1.2	2.2	1.3	1.9	5.4	10.5	5.2	7.8
NK	10.7	11.3	12.2	12.2	11.3	11.8	12.9	12.8
NR	4.0	4.0	6.5	6.5	4.7	5.1	8.6	8.6
NS	5.4	9.9	5.3	11.4	6.2	10.7	6.3	12.6
NU	4.6	4.7	4.4	4.4	5.3	5.6	5.1	5.1
NV	3.2	3.9	4.5	3.5	5.9	6.0	7.4	5.5
NY	7.5	7.7	7.0	8.5	8.1	8.5	7.8	9.5
N2	5.9	5.9	5.8	5.7	6.5	6.5	6.4	6.3
N7	2.9	3.0	3.4	3.3	4.6	4.9	5.1	5.0
N9	4.0	4.6	5.6	6.5	2.6	3.3	3.2	4.2
NB+NR	2.8	2.8	2.9	3.0	5.3	5.4	5.5	5.5
OTHER	2.7	2.6	3.2	3.1	8.1	8.5	8.6	8.6
ALL	1.3	1.3	1.3	1.4	4.7	5.1	4.8	4.9

A - Initial Employment Categories
B - Employment Categories with a Two-Month POM
C - Employment Categories modified for Foreign Ships
D - Employment Categories modified for Foreign Ships with a Two-Month POM
E - Initial Employment Categories with Negatives Removed
F - Employment Categories with a Two-Month POM and Negatives Removed
G - Employment Categories modified for Foreign Ships with Negatives Removed
H - Employment Categories modified for Foreign Ships with a Two-Month POM and Negatives Removed

COEFFICIENT OF DETERMINATION
DATA WITHOUT THE LAST MONTH
KNOX (FF-1052) CLASS FRIGATE

FUND	DATA SETS							
CODE	A	B	C	D	E	F	G	H
NB	1.6	1.5	2.6	2.4	1.9	1.9	3.1	2.6
NC	6.6	6.6	7.1	6.9	12.8	12.4	13.0	12.6
ND	7.5	7.5	11.0	11.1	7.9	7.8	12.1	12.2
NE	2.7	3.9	2.4	3.2	9.4	14.6	8.9	11.6
NK	13.1	13.6	14.0	13.8	13.5	14.0	14.9	14.5
NR	3.6	3.2	5.6	5.5	3.7	3.3	7.0	6.9
NS	1.5	1.8	2.6	2.2	1.6	2.0	3.2	3.0
NU	3.6	4.1	3.9	4.4	4.1	4.7	4.5	4.9
NV	2.5	3.2	3.2	3.3	5.0	5.5	5.9	5.3
NY	7.2	7.4	7.5	7.5	7.2	7.4	7.3	7.2
N2	8.5	8.5	8.2	8.2	9.2	9.2	8.9	8.9
N7	1.3	1.5	2.2	2.0	3.4	4.0	4.1	4.0
N9	5.8	6.1	8.4	8.7	5.0	5.1	5.8	6.1
NB+NR	2.3	2.3	2.5	2.6	3.7	3.9	4.2	4.1
OTHER	4.9	4.7	5.6	5.4	11.5	11.4	12.3	11.9
ALL	1.7	1.8	2.2	2.2	4.4	4.6	5.2	5.0

A - Initial Employment Categories
B - Employment Categories with a Two-Month POM
C - Employment Categories modified for Foreign Ships
D - Employment Categories modified for Foreign Ships with a Two-Month POM
E - Initial Employment Categories with Negatives Removed
F - Employment Categories with a Two-Month POM and Negatives Removed
G - Employment Categories modified for Foreign Ships with Negatives Removed
H - Employment Categories modified for Foreign Ships with a Two-Month POM and Negatives Removed

COEFFICIENT OF DETERMINATION
DATA WITHOUT THE FIRST AND LAST MONTH
KNOX (FF-1052) CLASS FRIGATE

FUND CODE	DATA SETS A	B	C	D	E	F	G	H
NB	1.9	1.7	2.4	2.2	2.8	2.5	3.4	3.0
NC	5.7	5.8	6.4	6.3	11.6	11.8	11.9	11.8
ND	7.1	7.2	12.7	13.5	7.1	7.1	13.7	14.4
NE	2.2	3.4	2.4	3.1	9.4	15.1	9.3	11.8
NK	13.0	13.6	14.5	14.4	13.5	14.1	15.6	15.4
NR	3.4	3.5	5.9	5.8	4.2	4.5	8.2	8.2
NS	2.4	2.2	3.1	1.5	2.3	2.2	3.4	1.8
NU	5.3	5.7	5.2	5.6	6.1	6.6	6.0	6.4
NV	2.8	3.5	4.4	3.3	6.2	6.2	8.2	5.6
NY	9.8	9.8	9.9	9.8	9.9	9.7	9.5	9.1
N2	6.4	6.5	6.5	6.4	7.2	7.2	7.2	7.2
N7	1.7	1.9	2.8	2.6	3.9	4.4	5.0	4.9
N9	5.0	5.6	5.6	5.9	3.5	4.2	4.2	4.7
NB+NR	2.3	2.2	2.2	2.2	4.1	4.2	4.1	4.1
OTHER	3.9	3.8	5.0	4.8	10.6	10.8	11.6	11.4
ALL	1.2	1.2	1.3	1.3	4.3	4.7	4.5	4.5

A - Initial Employment Categories
B - Employment Categories with a Two-Month POM
C - Employment Categories modified for Foreign Ships
D - Employment Categories modified for Foreign Ships with a Two-Month POM
E - Initial Employment Categories with Negatives Removed
F - Employment Categories with a Two-Month POM and Negatives Removed
G - Employment Categories modified for Foreign Ships with Negatives Removed
H - Employment Categories modified for Foreign Ships with a Two-Month POM and Negatives Removed

APPENDIX E
FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

NB

The regression equation is:

NB = - 10797 + 77132 SRA + 89445 POM + 45065 LOPS
+ 67511 1MADP + 3927 U/W + 1692 UPK

Predictor	Coefficient	Std Dev	t-ratio
Constant	-10797	27547	-0.39
SRA	77132	34370	2.24
POM	89445	36511	2.45
LOPS	45065	17788	2.53
1MADP	67511	41247	1.64
U/W	3927.0	954.5	4.11
UPK	1691.8	763.5	2.22

F-Ratio: 3.68

Coefficient of Determination: 19.3%
Coefficient of Determination (Adj): 14.1%

Analysis of Variance:

Source	DF	SS	MS
Regression	6	48354766848	8059125760
Error	92	201611411456	2191428352
Total	98	249966166016	

Source	DF	Seq SS
SRA	1	5500354560
POM	1	4428218368
LOPS	1	258221488
1MADP	1	539858432
U/W	1	26868043776
UPK	1	10760065024

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

NC

The regression equation is:

NC = - 124858 + 143833 SRA + 138630 DEPL + 178150 POM
+ 141867 LOPS + 141024 1MADP

Predictor	Coefficient	Std Dev	t-ratio
Constant	-124858	50762	-2.46
SRA	143833	50895	2.83
DEPL	138630	50909	2.72
POM	178150	53542	3.33
LOPS	141867	50745	2.80
1MADP	141024	51177	2.76

F-Ratio: 7.17

Coefficient of Determination: 28.7%
Coefficient of Determination (Adj): 24.7%

Analysis of Variance:

Source	DF	SS	MS
Regression	5	3056728832	611345664
Error	89	7590322176	85284512
Total	94	10647048192	

Source	DF	Seq SS
SRA	1	4039168
DEPL	1	96580112
POM	1	2288221440
LOPS	1	20279456
1MADP	1	647608576

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

ND

The regression equation is:

ND = 928 - 832 SRA - 53.4 U/W - 27.4 UPK + 1406 DEPLF

Predictor	Coefficient	Std Dev	t-ratio
Constant	927.6	367.6	2.52
SRA	-832.3	531.9	-1.56
U/W	-53.43	20.46	-2.61
UPK	-27.38	14.95	-1.83
DEPLF	1405.5	352.6	3.99

F-Ratio: 4.70

Coefficient of Determination: 15.3%
Coefficient of Determination (Adj): 12.1%

Analysis of Variance:

Source	DF	SS	MS
Regression	4	18109584	4527396
Error	104	100108352	962580
Total	108	118217936	

Source	DF	Seq SS
SRA	1	179785
U/W	1	696266
UPK	1	1937895
DEPLF	1	15295649

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

NE

The regression equation is:

NE = 10489 - 8439 DEPL - 8961 POM - 7823 LOPS - 7253 1MADP
- 51.5 U/W

Predictor	Coefficient	Std Dev	t-ratio
Constant	10489.1	728.5	14.40
DEPL	-8439	1126	-7.49
POM	-8961	1911	-4.69
LOPS	-7822.7	810.0	-9.66
1MADP	-7253	1413	-5.13
U/W	-51.49	26.08	-1.97

F-Ratio: 27.83

Coefficient of Determination: 65.3%
Coefficient of Determination (Adj): 62.9%

Analysis of Variance:

Source	DF	SS	MS
Regression	5	309520128	61904016
Error	74	164616432	2224546
Total	79	474136320	

Source	DF	Seq SS
DEPL	1	27714592
POM	1	5117
LOPS	1	215015536
1MADP	1	58114944
U/W	1	8669994

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

NK

The regression equation is:

NK = 3261 - 3986 SRA - 158 U/W - 96.0 UPK + 5297 DEPLF

Predictor	Coefficient	Std Dev	t-ratio
Constant	3261	1547	2.11
SRA	-3986	2238	-1.78
U/W	-157.98	86.06	-1.84
UPK	-96.00	62.88	-1.53
DEPLF	5297	1483	3.57

F-Ratio: 4.50

Coefficient of Determination: 14.8%
Coefficient of Determination (Adj): 11.5%

Analysis of Variance:

Source	DF	SS	MS
Regression	4	306671360	76667840
Error	104	1771667200	17035248
Total	108	2078338560	

Source	DF	Seq SS
SRA	1	27311920
U/W	1	39396768
UPK	1	22763920
DEPLF	1	217198832

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

NR

The regression equation is:

NR = 20933 + 58361 SRA + 2496 U/W + 97518 POMF + 35963 LOPSF

Predictor	Coefficient	Std Dev	t-ratio
Constant	20933	11894	1.76
SRA	58361	16851	3.46
U/W	2495.9	477.0	5.23
POMF	97518	22119	4.41
LOPSF	35963	9897	3.63

F-Ratio: 8.64

Coefficient of Determination: 25.3%
Coefficient of Determination (Adj): 22.4%

Analysis of Variance:

Source	DF	SS	MS
Regression	4	33803427840	8450854912
Error	102	99824762880	978673920
Total	106	133628166144	

Source	DF	Seq SS
SRA	1	6251920
U/W	1	11379425280
POMF	1	9495863296
LOPSF	1	12921884672

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

NS

The regression equation is:

NS = 1400 - 1341 SRA - 51.4 U/W - 33.0 UPK - 122 POM2MF
    - 384 1MADPF - 334 LOPS2MF

Predictor	Coefficient	Std Dev	t-ratio
Constant	1339.7	271.6	5.15
SRA	-1340.9	316.3	-4.24
U/W	-51.442	9.532	-5.40
UPK	-33.035	6.862	-4.81
POM2MF	-122.1	227.1	-0.54
1MADPF	-383.5	357.8	-1.07
LOPS2MF	-334.0	171.0	-1.95

F-Ratio: 5.70

Coefficient of Determination: 27.1%
Coefficient of Determination (Adj): 22.3%

Analysis of Variance:

Source	DF	SS	MS
Regression	6	5756665	959444
Error	92	15484227	168307
Total	98	21240880	

Source	DF	Seq SS
SRA	1	42817
U/W	1	1523132
UPK	1	3375735
POM2MF	1	172669
1MADPMF	1	345
LOPS2MF	1	641967

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

NU

The regression equation is:

NU = - 417 + 4095 SRA - 52.5 U/W + 5589 POMF + 3899 DEPLF
+ 2673 LOPSF

Predictor	Coefficient	Std Dev	t-ratio
Constant	-417	1577	-0.26
SRA	4095	1736	2.36
U/W	-52.46	30.02	-1.75
POMF	5589	1960	2.85
DEPLF	3899	1818	2.14
LOPSF	2673	1621	1.65

F-Ratio: 3.72

Coefficient of Determination: 16.5%
Coefficient of Determination (Adj): 12.1%

Analysis of Variance:

Source	DF	SS	MS
Regression	5	54637088	10927417
Error	94	275936512	2935494
Total	99	330573568	

Source	DF	Seq SS
SRA	1	14591107
U/W	1	2318155
POMF	1	21512640
DEPLF	1	8235388
LOPSF	1	7979790

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

NV

The regression equation is:

NV = 156 + 503 SRA

Predictor	Coefficient	Std Dev	t-ratio
Constant	156.03	47.34	3.30
SRA	503.5	187.4	2.69

F-Ratio: 7.22

Coefficient of Determination: 6.3%
Coefficient of Determination (Adj): 5.4%

Analysis of Variance:

Source	DF	SS	MS
Regression	1	1616769	1616769
Error	108	24195856	224036
Total	109	25812624	

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

NY

The regression equation is:

NY = 1760 - 1634 SRA - 1662 DEPL - 1618 POM - 1717 LOPS
+ 1740 1MADP

Predictor	Coefficient	Std Dev	t-ratio
Constant	1759.8	746.8	2.36
SRA	-1633.7	748.7	-2.18
POM	-1618.0	787.6	-2.05
LOPS	-1717.4	746.6	-2.30
1MADP	-1739.9	753.2	-2.31

F-Ratio: 2.57

Coefficient of Determination: 12.5%
Coefficient of Determination (Adj): 7.6%

Analysis of Variance:

Source	DF	SS	MS
Regression	5	237230	47446
Error	90	1662463	18472
Total	95	1899693	

Source	DF	Seq SS
SRA	1	28830
DEPL	1	18945
POM	1	90766
LOPS	1	121
1MADP	1	98569

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

N2

The regression equation is:

N2 = - 86122 + 96930 SRA + 92286 DEPL + 87684 1MADP
+ 97651 POM2M + 92601 LOPS2M

Predictor	Coefficient	Std Dev	t-ratio
Constant	-86122	14369	-5.99
SRA	96930	14281	6.79
DEPL	92286	14470	6.38
1MADP	87684	14234	6.16
POM2M	97651	14459	6.75
LOPS2M	92601	14315	6.47

F-Ratio: 11.63

Coefficient of Determination: 38.0%
Coefficient of Determination (Adj): 34.7%

Analysis of Variance:

Source	DF	SS	MS
Regression	5	1139380992	227876192
Error	95	1860805120	19587408
Total	100	3000186112	

Source	DF	Seq SS
SRA	1	136219680
DEPL	1	12490566
1MADP	1	15217577
POM2M	1	155831248
LOPS2M	1	819621888

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

N7

The regression equation is:

N7 = -35361 + 36511 SRA + 33748 DEPL + 34820 POM
+ 34667 LOPS + 34669 1MADP + 107 U/W + 60.9 UPK

Predictor	Coefficient	Std Dev	t-ratio
Constant	-35361	6735	-5.25
SRA	36511	6753	5.41
DEPL	33748	6739	5.01
POM	34820	7058	4.93
LOPS	34667	6704	5.17
1MADP	34669	6752	5.13
U/W	106.87	26.90	3.97
UPK	60.95	21.46	2.84

F-Ratio: 6.59

Coefficient of Determination: 36.0%
Coefficient of Determination (Adj): 30.5%

Analysis of Variance:

Source	DF	SS	MS
Regression	7	68581872	9797410
Error	82	121912432	1486736
Total	89	190494304	

Source	DF	Seq SS
SRA	1	19352
DEPL	1	249775
POM	1	4960272
LOPS	1	1107145
1MADP	1	38592288
U/W	1	11659923
UPK	1	11993113

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

N9

The regression equation is:

N9 = - 121378 + 121672 SRA + 121761 POM2MF + 121941 DEPLF
+ 121330 1MADPF + 121537 LOPS2MF

Predictor	Coefficient	Std Dev	t-ratio
Constant	-121378	2299	-52.80
SRA	121672	2301	52.88
POM2MF	121761	2301	52.93
DEPLF	121941	2306	52.88
1MADPF	121330	2224	54.56
LOPS2MF	121537	2298	52.89

F-Ratio: 707.06

Coefficient of Determination: 98.4%
Coefficient of Determination (Adj): 98.2%

Analysis of Variance:

Source	DF	SS	MS
Regression	5	141122368	28224464
Error	59	2355187	39918
Total	64	143477552	

Source	DF	Seq SS
SRA	1	173120
POM2MF	1	28418
DEPLF	1	12797
1MADPF	1	29230272
LOPS2MF	1	111677744

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

NB + NR

The regression equation is:

NB + NR = 32268 + 110393 SRA + 151752 POM + 51805 LOPS
+ 5914 U/W + 2191 UPK

Predictor	Coefficient	Std Dev	t-ratio
Constant	32268	33740	0.96
SRA	110393	43023	2.57
POM	151752	43947	3.45
LOPS	51805	19976	2.59
U/W	5914	1213	4.87
UPK	2190.8	991.3	2.21

F-Ratio: 6.88

Coefficient of Determination: 27.0%
Coefficient of Determination (Adj): 23.1%

Analysis of Variance:

Source	DF	SS	MS
Regression	5	128790953984	25758187520
Error	93	348123693056	3743265280
Total	98	476914647040	

Source	DF	Seq SS
SRA	1	6464352256
POM	1	22778466304
LOPS	1	198578576
U/W	1	81067311104
UPK	1	18282254336

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

OTHER

The regression equation is:

OTHER = - 255115 + 290418 SRA - 576 U/W + 358318 POMF
+ 304991 DEPLF + 286073 1MADPF + 291736 LOPSF

Predictor	Coefficient	Std Dev	t-ratio
Constant	-255115	85891	-2.97
SRA	290418	86154	3.37
U/W	-575.5	281.6	-2.04
POMF	358318	90888	3.94
DEPLF	304991	86467	3.53
1MADPF	286073	86590	3.30
LOPSF	291736	859668	3.39

F-Ratio: 7.67

Coefficient of Determination: 35.4%
Coefficient of Determination (Adj): 30.8%

Analysis of Variance:

Source	DF	SS	MS
Regression	6	11098484736	1849747456
Error	84	20261990400	241214160
Total	90	31360475136	

Source	DF	Seq SS
SRA	1	117424
U/W	1	641288448
POMF	1	6798381056
DEPLF	1	830146304
1MADPF	1	50557104
LOPSF	1	2777994240

FINAL MODEL REGRESSION OUTPUT
BELKNAP (CG-26) CLASS CRUISERS

ALL

The regression equation is:

ALL = 62519 + 130021 SRA + 207431 POM + 58890 LOPS
+ 5831 U/W + 2086 UPK

Predictor	Coefficient	Std Dev	t-ratio
Constant	62519	36945	1.69
SRA	130021	47481	2.74
POM	207431	48883	4.24
LOPS	58890	21720	2.71
U/W	5831	1352	4.31
UPK	2086	1106	1.89

F-Ratio: 6.67

Coefficient of Determination: 26.2%
Coefficient of Determination (Adj): 22.2%

Analysis of Variance:

Source	DF	SS	MS
Regression	5	156493086720	31298617344
Error	94	441349636096	4695207936
Total	99	597842722816	

Source	DF	Seq SS
SRA	1	2363254784
POM	1	53259472896
LOPS	1	2210922752
U/W	1	81963122688
UPK	1	16696360960

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

NB

The regression equation is:

NB = 31374 - 19898 OVHL - 472 UPK - 14728 1MADPF

Predictor	Coefficient	Std Dev	t-ratio
Constant	31374	1832	17.12
OVHL	-19898	4192	-4.75
UPK	-472.3	113.5	-4.16
1MADPF	-14728	8684	-1.70

F-Ratio: 11.72

Coefficient of Determination: 15.9%
Coefficient of Determination (Adj): 14.5%

Analysis of Variance:

Source	DF	SS	MS
Regression	3	7213772800	2404590848
Error	186	38144475136	205077808
Total	189	45358247936	

Source	DF	Seq SS
OVHL	1	2333840384
UPK	1	4290092032
1MADPF	1	589841152

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

NC

The regression equation is:

NC = 3508 + 5224 SRA + 8485 1MBAOH + 10488 OVHL + 139 UPK
+ 20377 POMF + 4810 DEPLF + 5363 LOPSF

Predictor	Coefficient	Std Dev	t-ratio
Constant	3508	3664	0.96
SRA	5224	3673	1.42
1MBACH	8485	4634	1.83
OVHL	10488	3867	2.71
UPK	138.77	60.18	2.31
POMF	20377	4340	4.69
DEPLF	4810	3673	1.31
LOPSF	5363	3448	1.56

F-Ratio: 7.81

Coefficient of Determination: 21.7%
Coefficient of Determination (Adj): 18.9%

Analysis of Variance:

Source	DF	SS	MS
Regression	7	1696669696	242381376
Error	197	6113755136	31034288
Total	204	7810424832	

Source	DF	Seq SS
SRA	1	24068656
1MBAOH	1	29583584
OVHL	1	192612352
UPK	1	507635712
POMF	1	862583296
DEPLF	1	5114575
LOPSF	1	75071424

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

ND

The regression equation is:

ND = 1227 - 326 SRA - 706 1MBAOH - 32.9 U/W - 1137 OVHL - 23.4 UPK - 349 POM2MF - 693 1MADPF - 414 LOPS2MF

Predictor	Coefficient	Std Dev	t-ratio
Constant	1227	219.7	5.59
SRA	-326.5	166.6	-1.96
1MBAOH	-706.2	263.3	-2.68
U/W	-32.927	8.881	-3.71
OVHL	-1136.9	233.0	-4.88
UPK	-23.385	6.805	-3.44
POM2MF	-349.1	166.5	-2.10
1MADPF	-693.1	303.9	-2.28
LOPS2MF	-413.9	100.3	-4.13

F-Ratio: 4.61

Coefficient of Determination: 17.1%
Coefficient of Determination (Adj): 13.4%

Analysis of Variance:

Source	DF	SS	MS
Regression	8	5472304	684038
Error	178	26440416	148542
Total	186	31912720	

Source	DF	Seq SS
SRA	1	10056
1MBAOH	1	156212
U/W	1	757762
OVHL	1	137932
UPK	1	1692377
POM2MF	1	23565
1MADPF	1	165902
LOPS2MF	1	2528497

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

NE

The regression equation is:

NE = 10288 - 8238 DEPL - 8979 1MBAOH - 10913 1MADP
- 5586 OVHL - 6711 POM2M - 7397 LOPS2M

Predictor	Coefficient	Std Dev	t-ratio
Constant	10288	1405	7.32
DEPL	-8238	1713	-4.81
1MBAOH	-8979	3495	-2.57
1MADP	-10913	3731	-2.92
OVHL	-5586	1923	-2.91
POM2M	-6711	2013	-3.33
LOPS2M	-7397	1533	-4.82

F-Ratio: 4.50

Coefficient of Determination: 14.8%
Coefficient of Determination (Adj): 11.8%

Analysis of Variance:

Source	DF	SS	MS
Regression	6	840269312	140044880
Error	173	4847898624	28022528
Total	179	5688164352	

Source	DF	Seq SS
DEPL	1	97151712
1MBAOH	1	11242345
1MADP	1	56028960
OVHL	1	10385093
POM2M	1	13187105
LOPS2M	1	652274176

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

NK

The regression equation is:

NK = 6237 - 2836 1MBAOH - 138 U/W - 6151 OVHL
- 162 UPK - 1862 POMF - 2390 1MADPF - 1784 LOPSF

Predictor	Coefficient	Std Dev	t-ratio
Constant	6237	1465	4.26
1MBAOH	-2836	1688	-1.68
U/W	-137.57	59.19	-2.32
OVHL	-6151	1573	-3.91
UPK	-162.11	47.47	-3.41
POMF	-1862	1551	-1.20
1MADPF	-2390	2094	-1.14
LOPSF	-1784.2	583.0	-3.06

F-Ratio: 4.86

Coefficient of Determination: 15.3%
Coefficient of Determination (Adj): 12.2%

Analysis of Variance:

Source	DF	SS	MS
Regression	7	260681440	37240192
Error	188	1441447168	7667272
Total	195	1702128384	

Source	DF	Seq SS
1MBAOH	1	3493097
U/W	1	101035808
OVHL	1	1760035
UPK	1	78094304
POMF	1	2350287
1MADPF	1	2130197
LOPSF	1	71817696

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

NR

The regression equation is:

NR = 19426 + 475 U/W + 17235 POMF + 12749 LOPSF

Predictor	Coefficient	Std Dev	t-ratio
Constant	19426	2159	9.00
U/W	475.0	118.7	4.00
POMF	17235	7788	2.21
LOPSF	12749	2352	5.42

F-Ratio: 12.94

Coefficient of Determination: 16.5%
Coefficient of Determination (Adj): 15.2%

Analysis of Variance:

Source	DF	SS	MS
Regression	3	7426482176	2475493888
Error	197	37697335296	191357024
Total	200	45123817472	

Source	DF	Seq SS
U/W	1	1352739328
POMF	1	451361024
LOPSF	1	5622382592

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

NS

The regression equation is:

NS = - 230 + 512 SRA + 430 1MBAOH + 336 OVHL - 317 POM2MF + 311 DEPLF + 277 1MADPF + 340 LOPS2MF

Predictor	Coefficient	Std Dev	t-ratio
Constant	-229.51	82.66	-2.78
SRA	512.25	98.01	5.23
1MBAOH	429.8	157.0	2.74
OVHL	336.34	98.99	3.40
POM2MF	316.7	111.4	2.84
DEPLF	311.27	87.19	3.57
1MADPF	276.9	149.2	1.86
LOPS2MF	339.88	85.71	3.97

F-Ratio: 4.15

Coefficient of Determination: 12.2%
Coefficient of Determination (Adj): 9.3%

Analysis of Variance:

Source	DF	SS	MS
Regression	7	1588487	226927
Error	209	11420959	54646
Total	216	13009446	

Source	DF	Seq SS
SRA	1	657153
1MBAOH	1	40009
OVHL	1	6695
POM2MF	1	19469
DEPLF	1	2936
1MADPF	1	2845
LOPS2MF	1	859381

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

NU

The regression equation is:

NU = 1535 - 499 1MBAOH - 501 1MADP - 42.1 U/W - 783 OVHL
- 17.9 UPK + 264 POM2M

Predictor	Coefficient	Std Dev	t-ratio
Constant	1535.0	312.5	4.91
1MBAOH	-499.3	347.1	-1.44
1MADP	-501.0	354.7	-1.41
U/W	-42.13	13.33	-3.16
OVHL	-782.5	337.5	-2.32
UPK	-17.93	11.25	-1.59
POM2M	263.8	191.5	1.38

F-Ratio: 3.42

Coefficient of Determination: 12.2%
Coefficient of Determination (Adj): 8.6%

Analysis of Variance:

Source	DF	SS	MS
Regression	6	7015428	1169238
Error	148	50531402	341428
Total	154	57546832	

Source	DF	Seq SS
1MBAOH	1	231111
1MADP	1	583089
U/W	1	3499002
OVHL	1	1349376
UPK	1	704849
POM2M	1	648001

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

NV

The regression equation is:

NV = - 1349 + 1519 SRA + 1475 1MBAOH + 1608 OVHL + 1442 POMF
+ 1397 DEPLF + 1434 1MADPF + 1429 LOPSF

Predictor	Coefficient	Std Dev	t-ratio
Constant	-1349.1	368.6	-3.66
SRA	1518.5	366.4	4.14
1MBAOH	1474.8	382.7	3.85
OVHL	1607.9	370.3	4.34
POMF	1442.0	382.3	3.77
DEPLF	1396.6	367.6	3.80
1MADPF	1434.4	384.3	3.73
LOPSF	1429.4	368.4	3.88

F-Ratio: 6.58

Coefficient of Determination: 20.9%
Coefficient of Determination (Adj): 17.7%

Analysis of Variance:

Source	DF	SS	MS
Regression	7	980642	140092
Error	174	3706025	21299
Total	181	4686667	

Source	DF	Seq SS
SRA	1	102321
1MBAOH	1	9516
OVHL	1	530647
POMF	1	1587
DEPLF	1	15982
1MADPF	1	20
LOPSF	1	320569

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

NY

The regression equation is:

NY = 82.5 + 249 1MBAOH - 56.5 DEPLF - 349 1MADPF
- 60.6 LOPSF

Predictor	Coefficient	Std Dev	t-ratio
Constant	82.47	28.34	2.91
1MBAOH	249.39	99.06	2.52
DEPLF	-56.47	36.22	-1.56
1MADPF	-348.8	121.5	-2.87
LOPSF	-60.56	35.10	-1.73

F-Ratio: 5.20

Coefficient of Determination: 9.6%
Coefficient of Determination (Adj): 7.8%

Analysis of Variance:

Source	DF	SS	MS
Regression	4	561034	140258
Error	195	5258347	26966
Total	199	5819380	

Source	DF	Seq SS
1MBAOH	1	287613
DEPLF	1	7622
1MADPF	1	185534
LOPSF	1	80265

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

N2

The regression equation is:

N2 = 6761 - 2977 SRA - 3179 DEPL -2993 LOPS - 5665 1MADP + 126 UPK

Predictor	Coefficient	Std Dev	t-ratio
Constant	6761.5	777.6	8.70
SRA	-2977	1501	-1.98
DEPL	-3179	1040	-3.06
LOPS	-2993.4	872.9	-3.43
1MADP	-5665	2187	-2.59
UPK	125.80	32.29	3.90

F-Ratio: 6.10

Coefficient of Determination: 14.1%
Coefficient of Determination (Adj): 11.8%

Analysis of Variance:

Source	DF	SS	MS
Regression	5	388050688	77610128
Error	186	2365040640	12715272
Total	191	2753091328	

Source	DF	Seq SS
SRA	1	37357104
DEPL	1	70095648
LOPS	1	58046848
1MADP	1	29534064
UPK	1	193017232

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

N7

The regression equation is:

N7 = - 1419 + 3605 SRA + 2528 1MBAOH - 38.0 U/W + 2380 OVHL
- 42.6 UPK + 5205 POMF + 3321 DEPLF + 3538 1MADPF
- 3548 LOPSF

Predictor	Coefficient	Std Dev	t-ratio
Constant	-1419	2541	-0.56
SRA	3506	2449	1.47
1MBAOH	2528	2530	1.00
U/W	-38.01	25.97	-1.46
OVHL	2380	2553	0.93
UPK	-42.55	20.15	-2.11
POMF	5205	2515	2.07
1MADPF	3538	2519	1.40
LOPSF	3548	2453	1.45

F-Ratio: 1.97

Coefficient of Determination: 9.7%
Coefficient of Determination (Adj): 4.8%

Analysis of Variance:

Source	DF	SS	MS
Regression	9	16559112	1839901
Error	166	154728560	932100
Total	175	171287664	

Source	DF	Seq SS
SRA	1	17534
1MBAOH	1	1929312
U/W	1	153798
OVHL	1	328374
UPK	1	3126590
POMF	1	8692704
DEPLF	1	360555
1MADPF	1	927
LOPSF	1	1949318

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

N9

The regression equation is:

N9 = 285 - 239 SRA + 1209 1MBAOH + 848 POM2MF

Predictor	Coefficient	Std Dev	t-ratio
Constant	284.97	24.95	11.42
SRA	-238.69	90.25	-2.64
1MBAOH	1208.9	183.5	6.59
POM2MF	847.7	123.0	6.89

F-Ratio: 33.22

Coefficient of Determination: 36.3%
Coefficient of Determination (Adj): 35.2%

Analysis of Variance:

Source	DF	SS	MS
Regression	3	9215858	3071952
Error	175	16181917	92468
Total	178	25397760	

Source	DF	Seq SS
SRA	1	1142195
1MBAOH	1	3685025
POM2MF	1	4388637

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

NB + NR

The regression equation is:

NB + NR = 52107 - 23988 1MBAOH + 1073 U/W - 23311 OVHL
 - 10734 DEPLF - 36887 1MADPF

Predictor	Coefficient	Std Dev	t-ratio
Constant	52107	3464	15.04
1MBAOH	-23988	14612	-1.64
U/W	1073.5	323.1	3.32
OVHL	-23311	7033	-3.31
DEPLF	-10734	6435	-1.67
1MADPF	-36887	13734	-2.69

F-Ratio: 9.65

Coefficient of Determination: 19.5%
Coefficient of Determination (Adj): 17.5%

Analysis of Variance:

Source	DF	SS	MS
Regression	5	30529564672	6105911296
Error	199	125962747904	632978432
Total	204	156492300288	

Source	DF	Seq SS
1MBAOH	1	2141058304
U/W	1	15796428800
OVHL	1	6210248704
DEPLF	1	1815692800
1MADPF	1	4566130688

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

OTHER

The regression equation is:

OTHER = 28722 - 325 U/W + 24688 POMF - 25439 1MADPF

Predictor	Coefficient	Std Dev	t-ratio
Constant	28722	1342	21.40
U/W	-324.94	89.55	-3.63
POMF	24688	5643	4.37
1MADPF	-25439	7988	-3.18

F-Ratio: 14.96

Coefficient of Determination: 18.4%
Coefficient of Determination (Adj): 17.2%

Analysis of Variance:

Source	DF	SS	MS
Regression	3	5358706688	1786235392
Error	199	23756988416	119381840
Total	202	29115695104	

Source	DF	Seq SS
U/W	1	1704408832
POMF	1	2443510528
1MADPF	1	1210790400

FINAL MODEL REGRESSION OUTPUT
KNOX (FF-1052) CLASS FRIGATES

ALL

The regression equation is:

ALL = 125939 - 45146 SRA - 61857 1MBAOH - 56819 OVHL
- 40975 DEPLF - 97079 1MADPF - 32957 LOPSF

Predictor	Coefficient	Std Dev	t-ratio
Constant	125939	16515	7.63
SRA	-45146	18797	-2.40
1MBAOH	-61857	24726	-2.50
OVHL	-56819	18335	-3.10
DEPLF	-40975	17031	-2.41
1MADPF	-97079	26010	-3.73
LOPSF	-32957	17142	-1.92

F-Ratio: 4.03

Coefficient of Determination: 10.9%
Coefficient of Determination (Adj): 8.2%

Analysis of Variance:

Source	DF	SS	MS
Regression	6	25193439232	4198906368
Error	198	206177894400	1041302272
Total	204	231371309056	

Source	DF	Seq SS
SRA	1	332933888
1MBAOH	1	2012763392
OVHL	1	5946290176
DEPLF	1	2191837952
1MADPF	1	10860736512
LOPSF	1	3848876544

APPENDIX F
FY87 COMPARISON
ACTUAL VS. ESTIMATE
BELKNAP (CG-26) CLASS CRUISER

NB COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	1143987	983949	160038	13.989
CG - 30	848378	1111368	-262990	-30.999
CG - 31	1287391	1318725	-31334	-2.433
CG - 32	1509279	1296548	212731	14.094
CG - 33	1103400	1028745	74655	6.765

MEAN ABSOLUTE DEVIATION = 148350

MEAN ABSOLUTE PERCENT DEVIATION = 13.657

SUM OF THE ERRORS = 153100

NC COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	149022	189669	-40647.4	-27.276
CG - 30	205969	229505	-23536.0	-11.427
CG - 31	143438	213741	-70303.2	-49.012
CG - 32	183475	235907	-52431.6	-28.576
CG - 33	149806	222264	-72457.6	-48.367

MEAN ABSOLUTE DEVIATION = 51875

MEAN ABSOLUTE PERCENT DEVIATION = 32.932

SUM OF THE ERRORS = -259376

FY87 COMPARISON
ACTUAL VS. ESTIMATE
BELKNAP (CG-26) CLASS CRUISER

ND COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	2502	6210.61	-3708.61	-148.226
CG - 30	1641	886.00	755.00	46.008
CG - 31	2359	2048.20	310.80	13.175
CG - 32	3504	122.40	3381.60	96.507
CG - 33	11072	7225.40	3846.60	34.742

MEAN ABSOLUTE DEVIATION = 2400.5

MEAN ABSOLUTE PERCENT DEVIATION = 67.731

SUM OF THE ERRORS = 4585.4

NE COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	6931	24206.8	17275.8	249.254
CG - 30	27570	28259.9	-689.9	-2.502
CG - 31	15701	64814.2	-49113.2	-312.803
CG - 32	46109	37482.4	8626.6	18.709
CG - 33	52821	19421.9	33399.1	63.231

MEAN ABSOLUTE DEVIATION = 20911

MEAN ABSOLUTE PERCENT DEVIATION = 129.2998

SUM OF THE ERRORS = 4946.9

FY87 COMPARISON
ACTUAL VS. ESTIMATE
BELKNAP (CG-26) CLASS CRUISER

NK COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	8039	26691.4	-18652.4	-232.024
CG - 30	0	4878.0	-4878.0	*
CG - 31	6286	6751.7	-465.7	-7.408
CG - 32	46109	3556.2	42552.8	92.287
CG - 33	52821	32017.2	20803.8	39.385

MEAN ABSOLUTE DEVIATION = 17471

MEAN ABSOLUTE PERCENT DEVIATION = 92.776

SUM OF THE ERRORS = 39361

NR COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	821860	775296	46564	5.665
CG - 30	1040093	868112	171981	16.535
CG - 31	842940	904933	-61993	-7.354
CG - 32	800897	1055023	-254126	-31.730
CG - 33	895239	929794	-34555	-3.859

MEAN ABSOLUTE DEVIATION = 113844

MEAN ABSOLUTE PERCENT DEVIATION = 13.029

SUM OF THE ERRORS = -132130

FY87 COMPARISON
ACTUAL VS. ESTIMATE
BELKNAP (CG-26) CLASS CRUISER

NS COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	177	2547.00	-2370.00	-1338.98
CG - 30	2218	1543.60	674.40	30.41
CG - 31	422	-2640.90	3062.90	725.80
CG - 32	4762	-1733.20	6495.20	136.40
CG - 33	1919	2895.40	-976.40	-50.88

MEAN ABSOLUTE DEVIATION = 2715.8

MEAN ABSOLUTE PERCENT DEVIATION = 456.49

SUM OF THE ERRORS = 6886.1

NU COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	29351	23668.2	5682.8	19.361
CG - 30	21988	26120.7	-4132.7	-18.795
CG - 31	54645	33694.1	20950.9	38.340
CG - 32	43401	28459.6	14941.4	34.426
CG - 33	34663	28716.1	5946.9	17.156

MEAN ABSOLUTE DEVIATION = 103301

MEAN ABSOLUTE PERCENT DEVIATION = 25.616

SUM OF THE ERRORS = 43389

FY87 COMPARISON
ACTUAL VS. ESTIMATE
BELKNAP (CG-26) CLASS CRUISER

NV COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	75	1872.0	-1797.0	-2396.00
CG - 30	2758	1872.0	886.0	32.12
CG - 31	2386	4336.7	-1950.7	-81.76
CG - 32	500	2878.0	-2378.0	-475.60
CG - 33	1167	1872.0	-705.0	-60.41

MEAN ABSOLUTE DEVIATION = 1543.3

MEAN ABSOLUTE PERCENT DEVIATION = 609.18

SUM OF THE ERRORS = -5944.7

NY COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	119	4204.00	-4085.00	-3432.78
CG - 30	895	585.30	309.70	34.60
CG - 31	123	922.71	-799.71	-650.17
CG - 32	644	924.01	-280.01	-43.48
CG - 33	144	923.01	-779.01	-540.98

MEAN ABSOLUTE DEVIATION = 1250.7

MEAN ABSOLUTE PERCENT DEVIATION = 940.40

SUM OF THE ERRORS = -5634.0

FY87 COMPARISON
ACTUAL VS. ESTIMATE
BELKNAP (CG-26) CLASS CRUISER

N2 COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	70920	71507.8	-587.8	-0.828
CG - 30	96232	86332.8	9899.2	10.286
CG - 31	54270	98959.9	-44689.9	-82.347
CG - 32	82494	95686.8	-13192.8	-15.992
CG - 33	59408	86083.8	-26675.8	-44.902

MEAN ABSOLUTE DEVIATION = 19009

MEAN ABSOLUTE PERCENT DEVIATION = 30.872

SUM OF THE ERRORS = -75247

N7 COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	16594	10577.4	6016.6	36.257
CG - 30	19705	13894.8	5810.2	29.486
CG - 31	21619	24032.0	-2413.0	-11.161
CG - 32	18055	20346.1	-2291.1	-12.689
CG - 33	26631	11058.7	15572.3	58.474

MEAN ABSOLUTE DEVIATION = 6420.6

MEAN ABSOLUTE PERCENT DEVIATION = 29.614

SUM OF THE ERRORS = 22695

FY87 COMPARISON
ACTUAL VS. ESTIMATE
BELKNAP (CG-26) CLASS CRUISER

N9 COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	17644	3397.62	14246.4	80.743
CG - 30	4136	2289.00	1847.0	44.657
CG - 31	17483	4306.44	13176.6	75.368
CG - 32	12210	3676.25	8533.7	69.891
CG - 33	1313	4618.25	-3305.2	-251.33

MEAN ABSOLUTE DEVIATION = 8221.8

MEAN ABSOLUTE PERCENT DEVIATION = 104.48

SUM OF THE ERRORS = 34498

NB+NR COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	1965847	1789664	176183	8.962
CG - 30	1888471	1992169	-103698	-5.491
CG - 31	2130331	2356000	-225669	-10.593
CG - 32	2310176	2367975	-57799	-2.501
CG - 33	1998639	2015832	-17193	-0.860

MEAN ABSOLUTE DEVIATION = 116108

MEAN ABSOLUTE PERCENT DEVIATION = 5.6817

SUM OF THE ERRORS = -228176

FY87 COMPARISON
ACTUAL VS. ESTIMATE
BELKNAP (CG-26) CLASS CRUISER

OTHER COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	331374	424947	-93573	-28.237
CG - 30	383112	453227	-70115	-18.301
CG - 31	318732	428358	-109626	-34.394
CG - 32	441263	454917	-13654	-3.094
CG - 33	391765	490981	-99216	-25.325

MEAN ABSOLUTE DEVIATION = 77237

MEAN ABSOLUTE PERCENT DEVIATION = 21.871

SUM OF THE ERRORS = -386183

ALL COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
CG - 29	2297221	2172973	124248	5.408
CG - 30	2271583	2441871	-170288	-7.496
CG - 31	2449063	2836135	-387072	-15.804
CG - 32	2751439	2838944	-87505	-3.180
CG - 33	2390404	2446477	-56073	-2.345

MEAN ABSOLUTE DEVIATION = 165037

MEAN ABSOLUTE PERCENT DEVIATION = 6.8472

SUM OF THE ERRORS = -576690

FY87 COMPARISON
ACTUAL VS. ESTIMATE
KNOX (FF-1052) CLASS FRIGATE

NB COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	281225	289168	-7943	-2.824
FF - 1061	265624	255656	9968	3.753
FF - 1064	344460	260376	84084	24.410
FF - 1065	350935	336368	14567	4.151
FF - 1067	140835	285392	-144557	102.643
FF - 1070	227985	253296	-25311	-11.102
FF - 1071	226615	237248	-10633	-4.692
FF - 1076	319782	254240	65542	20.496
FF - 1083	280064	329288	-49224	-17.576
FF - 1087	279185	317488	-38303	-13.3720

MEAN ABSOLUTE DEVIATION = 45013

MEAN ABSOLUTE PERCENT DEVIATION = 20.537

SUM OF THE ERRORS = -101810

NC COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	114715	128571	-13856	-12.0786
FF - 1061	185022	156523	28499	15.4031
FF - 1064	344460	138102	206358	59.9076
FF - 1065	145700	130073	15626	10.7251
FF - 1067	154469	129845	24624	15.9408
FF - 1070	98780	142272	-43492	-44.0294
FF - 1071	118542	146845	-28303	-23.8762
FF - 1076	110409	142286	-31877	-28.8719
FF - 1083	110878	132214	-21336	-19.2426
FF - 1087	91582	119292	-27710	-30.2574

MEAN ABSOLUTE DEVIATION = 44168

MEAN ABSOLUTE PERCENT DEVIATION = 26.033

SUM OF THE ERRORS = 108532

FY87 COMPARISON
ACTUAL VS. ESTIMATE
KNOX (FF-1052) CLASS FRIGATE

ND COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	5066	4566.70	499.3	-9.856
FF - 1061	4950	2346.60	2603.4	-52.594
FF - 1064	1678	2844.30	-1166.3	69.506
FF - 1065	4727	3389.20	1337.8	-28.301
FF - 1067	16858	4475.10	12382.9	-73.454
FF - 1070	823	1076.70	-253.7	30.827
FF - 1071	0	1759.70	-1759.7	*
FF - 1076	1750	1695.40	54.6	-3.120
FF - 1083	1000	4181.20	-3181.2	318.120
FF - 1087	12091	5192.10	6898.9	-57.058

MEAN ABSOLUTE DEVIATION = 3013.8

MEAN ABSOLUTE PERCENT DEVIATION = 71.426

SUM OF THE ERRORS = 31527

NE COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	43546	49486.0	-5940.0	-13.641
FF - 1061	22181	52001.0	-29820.0	-134.439
FF - 1064	14886	34692.0	-19806.0	-133.051
FF - 1065	5605	31186.2	-25581.2	-456.399
FF - 1067	21654	54663.9	-33009.9	-152.443
FF - 1070	19288	59102.1	-39814.1	-206.419
FF - 1071	40777	67238.7	-26461.7	-64.894
FF - 1076	20957	43568.4	-22611.4	-107.894
FF - 1083	40764	31270.3	9493.7	23.289
FF - 1087	5043	34550.2	-29507.2	-585.111

MEAN ABSOLUTE DEVIATION = 24205

MEAN ABSOLUTE PERCENT DEVIATION = 187.76

SUM OF THE ERRORS = -457759

FY87 COMPARISON
ACTUAL VS. ESTIMATE
KNOX (FF-1052) CLASS FRIGATE

NK COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	21661	22972.0	-1311.0	6.052
FF - 1061	0	8520.4	-8520.4	*
FF - 1064	17206	8956.4	8249.6	47.946
FF - 1065	38026	20955.2	17070.8	44.892
FF - 1067	27157	23086.4	4070.6	14.989
FF - 1070	2085	5035.2	-2950.2	141.496
FF - 1071	0	7285.6	-7285.6	*
FF - 1076	5592	4786.8	805.2	14.399
FF - 1083	6415	23314.8	-16899.8	263.442
FF - 1087	33214	26700.8	6513.2	19.609

MEAN ABSOLUTE DEVIATION = 7367.6

MEAN ABSOLUTE PERCENT DEVIATION = 69.109

SUM OF THE ERRORS = -257.63

NR COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	388278	334933	53345	13.7389
FF - 1061	364701	384989	-20288	-5.5628
FF - 1064	271216	371630	-100414	-37.0235
FF - 1065	369778	416392	-46614	-12.6059
FF - 1067	292774	322809	-30035	-10.2588
FF - 1070	353526	385353	-31827	-9.0028
FF - 1071	395846	351379	44467	11.2333
FF - 1076	436100	401201	34899	8.0025
FF - 1083	356198	400567	-44369	-12.4562
FF - 1087	312197	354233	-42036	-13.4646

MEAN ABSOLUTE DEVIATION = 44829

MEAN ABSOLUTE PERCENT DEVIATION = 13.335

SUM OF THE ERRORS = -182872

FY87 COMPARISON
ACTUAL VS. ESTIMATE
KNOX (FF-1052) CLASS FRIGATE

NS COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	424	1490.00	-1066.00	-251.415
FF - 1062	900	372.80	527.20	58.578
FF - 1064	2244	1186.60	1057.40	47.121
FF - 1065	450	-162.20	612.20	136.045
FF - 1067	636	1629.90	-993.90	-156.273
FF - 1070	925	1887.60	-962.60	-104.065
FF - 1071	1299	2076.80	-777.80	-59.877
FF - 1076	500	1526.40	-1026.40	-205.280
FF - 1083	2894	-159.30	3053.30	105.505
FF - 1087	2455	1082.20	1372.80	55.919

MEAN ABSOLUTE DEVIATION = 1145.0

MEAN ABSOLUTE PERCENT DEVIATION = 118.01

SUM OF THE ERRORS = 1796.2

NU COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	18004	13243.8	4760.2	26.440
FF - 1062	10518	13349.4	-2831.4	-26.920
FF - 1064	36369	13269.3	23099.7	63.515
FF - 1065	25483	9166.3	16316.7	64.030
FF - 1067	47345	12747.4	34597.6	73.076
FF - 1070	5168	12382.2	-7214.2	-139.594
FF - 1071	17003	13251.4	3751.6	22.064
FF - 1076	25099	13940.7	11158.3	44.457
FF - 1083	14590	10439.8	4150.2	28.445
FF - 1087	21682	11906.0	9776.0	45.088

MEAN ABSOLUTE DEVIATION = 11766

MEAN ABSOLUTE PERCENT DEVIATION = 53.363

SUM OF THE ERRORS = 97565

FY87 COMPARISON
ACTUAL VS. ESTIMATE
KNOX (FF-1052) CLASS FRIGATE

NV COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	1592	948.00	644.00	40.452
FF - 1062	1051	1158.20	-107.20	-10.200
FF - 1064	743	812.79	-69.79	-9.393
FF - 1065	210	787.39	-577.39	-274.950
FF - 1067	5457	1137.89	4319.11	79.148
FF - 1070	500	1256.99	-756.99	-151.398
FF - 1071	1734	1356.00	378.00	21.800
FF - 1076	573	1068.00	-495.00	-86.387
FF - 1083	1690	790.59	899.41	53.219
FF - 1087	2832	697.59	2134.41	75.367

MEAN ABSOLUTE DEVIATION = 1038.1

MEAN ABSOLUTE PERCENT DEVIATION = 80.231

SUM OF THE ERRORS = 6368.5

NY COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	68	408.600	-340.60	-500.882
FF - 1062	0	458.360	-458.36	*
FF - 1064	226	281.660	-55.66	-24.628
FF - 1065	0	347.180	-347.10	*
FF - 1067	0	447.010	-447.01	*
FF - 1070	0	462.780	-462.78	*
FF - 1071	180	529.440	-349.44	-194.133
FF - 1076	168	335.520	-167.52	-99.714
FF - 1083	133	346.771	-213.70	-160.730
FF - 1087	275	296.420	-21.40	-7.789

MEAN ABSOLUTE DEVIATION = 286.37

MEAN ABSOLUTE PERCENT DEVIATION = 164.65

SUM OF THE ERRORS = -2863.7

FY87 COMPARISON
ACTUAL VS. ESTIMATE
KNOX (FF-1052) CLASS FRIGATE

N2 COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	56198	68558.0	-12360.0	-21.994
FF - 1062	96821	80425.7	16395.3	16.934
FF - 1064	39554	76212.0	-36658.0	-92.678
FF - 1065	41132	57840.2	-16708.2	-40.621
FF - 1067	82818	69577.1	13240.9	15.988
FF - 1070	48924	78154.7	-29230.7	-59.747
FF - 1071	89728	82456.4	7271.6	8.104
FF - 1076	36512	77869.1	-41357.1	-113.270
FF - 1083	44306	59748.8	-15442.8	-34.855
FF - 1087	48914	63624.2	-14710.2	-30.073

MEAN ABSOLUTE DEVIATION = 20337

MEAN ABSOLUTE PERCENT DEVIATION = 43.43

SUM OF THE ERRORS = 714466

NR COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	16876	-16031.0	32907.0	194.993
FF - 1062	10065	-45476.4	55541.4	551.827
FF - 1064	18686	-42020.2	60706.2	324.875
FF - 1065	11369	-22611.8	33980.8	298.890
FF - 1067	12354	-8437.0	20791.0	168.294
FF - 1070	17329	-50423.7	67752.7	390.979
FF - 1071	16680	-42407.8	59087.8	354.243
FF - 1076	20591	-64485.8	85076.7	413.174
FF - 1083	12206	-22569.7	34775.7	284.906
FF - 1087	19901	-14417.2	34318.2	172.445

MEAN ABSOLUTE DEVIATION = 48494

MEAN ABSOLUTE PERCENT DEVIATION = 315.46

SUM OF THE ERRORS = -328880

FY87 COMPARISON
ACTUAL VS. ESTIMATE
KNOX (FF-1052) CLASS FRIGATE

N9 COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	2598	2942.0	-344.0	-13.241
FF - 1062	6400	4590.2	1809.8	28.278
FF - 1064	8116	3420.0	4696.0	57.861
FF - 1065	2060	5116.0	-3056.0	-148.349
FF - 1067	7127	2774.7	4352.3	61.068
FF - 1070	3100	2631.3	468.7	15.119
FF - 1071	2701	2368.4	332.6	12.314
FF - 1076	6195	3133.2	3061.8	49.424
FF - 1083	1803	5116.0	-3313.0	-83.749
FF - 1087	4599	3420.0	1179.0	25.636

MEAN ABSOLUTE DEVIATION = 2261.3

MEAN ABSOLUTE PERCENT DEVIATION = 59.504

SUM OF THE ERRORS = 9187.2

NB+NR COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	669503	675691	-6188	-0.9243
FF - 1062	630325	683224	-52899	-8.3924
FF - 1064	615676	675697	-60021	-9.7487
FF - 1065	720713	788357	-67644	-9.3857
FF - 1067	433609	674616	-241007	-55.5817
FF - 1070	581511	718635	-137124	-23.5806
FF - 1071	622461	673569	-51108	-8.2106
FF - 1076	755882	693956	61926	8.1925
FF - 1083	636262	750802	-114540	-18.0020
FF - 1087	591382	701434	-110052	-18.6093

MEAN ABSOLUTE DEVIATION = 90251

MEAN ABSOLUTE PERCENT DEVIATION = 16.063

SUM OF THE ERRORS = -778657

FY87 COMPARISON
ACTUAL VS. ESTIMATE
KNOX (FF-1052) CLASS FRIGATE

OTHER COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	280748	309889	-29141	-10.3798
FF - 1062	337908	350502	-12594	-3.7270
FF - 1064	484168	314439	169729	35.0558
FF - 1065	274762	301102	-26340	-9.5865
FF - 1067	375875	308589	67286	17.9012
FF - 1070	196922	316389	-119467	-60.6672
FF - 1071	288644	330039	-41395	-14.3412
FF - 1076	228346	323864	-95518	-41.8304
FF - 1083	236679	312802	-76123	-32.1630
FF - 1087	242588	294939	-52351	-21.5802

MEAN ABSOLUTE DEVIATION = 68994

MEAN ABSOLUTE PERCENT DEVIATION = 24.723

SUM OF THE ERRORS = -215914

ALL COST CODE

SHIP	FY87	FY87EST	DIFF.	% DIFF.
FF - 1052	950251	1043298	-93047	-9.9718
FF - 1062	968233	1118717	-150484	-15.5421
FF - 1064	1099844	1078901	20943	1.9042
FF - 1065	995475	1102236	-106761	-10.7246
FF - 1067	809484	1027460	-217976	-26.9277
FF - 1070	778433	1075560	-297127	-38.1699
FF - 1071	911105	1062151	-151046	-16.5783
FF - 1076	984228	1101156	-116928	-11.8802
FF - 1083	872941	1103037	-230096	-26.3587
FF - 1087	833970	1050036	-216066	-25.9081

MEAN ABSOLUTE DEVIATION = 160047

MEAN ABSOLUTE PERCENT DEVIATION = 18.379

SUM OF THE ERRORS = -1558587

INDEX OF TERMS

AAA	Authorized Accounting Activity
AAW	Anti-Air Warfare
ADP	Automatic Data Processing
ASW	Anti-Submarine Warfare
BOR	Budget OPTAR Report
CINCLANTFLT	Commander-in-Chief U. S. Atlantic Fleet
CINCPACFLT	Commander-in-Chief U. S. Pacific Fleet
CIWS	Close-In Weapon System
CNO	Chief of Naval Operations
COMNAVSURFPAC	Commander Naval Surface Force U. S. Pacific Fleet
CSRT	Combat System Readiness Test
DEPL	Deployed
DEPLF	Deployed using an alternate definition for foreign homeported ships (see Chapter III)
DLR	Depot Level Repairable
EMPSKD	Employment Schedule
INSURV	Board of Inspection and Survey
ISIC	Immediate Superior in Command
LOE	Light-Off Examination
LOPS	Local Operations
LOPSF	LOPS using an alternate definition for foreign homeported ships (see Chapter III)
LOPS2M	LOPS When POM is Extended to Two Months (see Chapter III)
LOPS2MF	LOPSF When POM is Extended to Two Months (see Chapter III)

MAD	Mean Absolute Deviation
MSC	Material Support Center
NRF	Naval Reserve Force
NSA	Navy Stock Account
NTDS	Naval Tactical Data System
NWAI	Nuclear Weapons Acceptance Inspection
O&M,N	Operations and Maintenance, Navy
OMB	Office of Management and Budget
OPN	Other Procurement, Navy
OPPE	Operation Propulsion Plant Examination
OPTAR	Operating Target
OVHL	Overhaul
POM	Prepares for Overseas Movement
POMF	POM using an alternate definition for foreign homeported ships (see Chapter III)
POM2M	POM Extended to Two Months (see Chapter III)
POM2MF	POMF Extended to Two Months (see Chapter III)
PRAV	Programmed Restricted Availability
R	Coefficient of Correlation
R^2	Coefficient of Determination
REFTRA	Refresher Training
ROH	Regular Overhaul
RP	Repair Part
SRA	Selected Restricted Availability
SURFPAC	Surface Forces Pacific
TAD	Temporary Additional Duty
TYCOM	Type Commander

UPK	Upkeep
U/W	Underway
1MADP	One Month After Deployment
1MADPF	1MADP using an alternate definition for foreign homeported ships (see Chapter III)
1MBAOH	One Month Before/After Overhaul

LIST OF REFERENCES

Commander Naval Surface Forces Pacific, COMNAVSURFPAC Quarterly Employment Schedules--First Quarter Fiscal Year 1985 (CNSP Q1-85 (Final)), San Diego, CA, 18 February 1985.

Commander Naval Surface Forces Pacific, COMNAVSURFPAC Quarterly Employment Schedules--Second Quarter Fiscal Year 1985 (CNSP Q2-85 (Final)), San Diego, CA, 24 August 1985.

Commander Naval Surface Forces Pacific, COMNAVSURFPAC Quarterly Employment Schedules--Third Quarter Fiscal Year 1985 (CNSP Current Schedules)), San Diego, CA, 06 June 1985.

Commander Naval Surface Forces Pacific, COMNAVSURFPAC Quarterly Employment Schedules--Fourth Quarter Fiscal Year 1985 (CNSP Q4-85 (Final)), San Diego, CA, 11 December 1985.

Commander Naval Surface Forces Pacific, COMNAVSURFPAC Quarterly Employment Schedules--First Quarter Fiscal Year 1986 (CNSP Q1-86 (Final)), San Diego, CA, 15 March 1986.

Commander Naval Surface Forces Pacific, COMNAVSURFPAC Quarterly Employment Schedules--Second Quarter Fiscal Year 1986 (CNSP Q2-86 (Final)), San Diego, CA, 15 April 1986.

Commander Naval Surface Forces Pacific, COMNAVSURFPAC Quarterly Employment Schedules--Third Quarter Fiscal Year 1986 (CNSP Q3-86 (Final)), San Diego, CA, 07 August 1986.

Commander Naval Surface Forces Pacific, COMNAVSURFPAC Quarterly Employment Schedules--Fourth Quarter Fiscal Year 1986 (CNSP Q4-86 (Final)), San Diego, CA, 27 October 1986.

Commander Naval Surface Forces Pacific, COMNAVSURFPAC Quarterly Employment Schedules--First Quarter Fiscal Year 1987 (CNSP Q1-87 (Final)), San Diego, CA, 21 January 1987.

Commander Naval Surface Forces Pacific, COMNAVSURFPAC Quarterly Employment Schedules--Second Quarter Fiscal Year 1987 (CNSP Q2-87 (Final)), San Diego, CA, 05 May 1987.

Commander Naval Surface Forces Pacific, COMNAVSURFPAC Quarterly Employment Schedules--Third Quarter Fiscal Year 1987 (CNSP Q3-87 (Final)), San Diego, CA, 27 July 1987.

Commander Naval Surface Forces Pacific, *COMNAVSURFPAC Quarterly Employment Schedules--Fourth Quarter Fiscal Year 1987 (CNSP Q4-87 (Final))*, San Diego, CA, 23 November 1987.

Commander Naval Surface Forces Pacific, *COMNAVSURFPAC Instruction 4400.1F*, San Diego, CA, Code 716/CMV.

Gaither, N., *Production and Operations Management*, pp. 84-105, 3rd ed., The Dryden Press, 1987.

Hosmer, L., *Strategic Management*, pp. 171-182, Prentice-Hall, 1982.

Neter, J. and Wasserman, W., *Applied Linear Statistical Models*, pp. 214-215, Richard D. Irwin, Inc., 1974.

Stoner, J, and Wankel, C., *Management*, pp. 180-185, 3rd ed., Prentice-Hall, 1986.

USS BADGER, *Monthly Budget OPTAR Reports*, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS COOK, *Monthly Budget OPTAR Reports*, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS DOWNES, *Monthly Budget OPTAR Reports*, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS FANNING, *Monthly Budget OPTAR Reports*, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS FOX, *Monthly Budget OPTAR Reports*, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS FRANCIS HAMMOND, *Monthly Budget OPTAR Reports*, October 1985 - September 1987, Naval messages maintained at COMNAV-SURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS HORNE, Monthly Budget OPTAR Reports, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS JOUETT, Monthly Budget OPTAR Reports, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS KIRK, Monthly Budget OPTAR Reports, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS KNOX, Monthly Budget OPTAR Reports, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS LOCKWOOD, Monthly Budget OPTAR Reports, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS WILLIAM H. STANDLEY, Monthly Budget OPTAR Reports, October 1985 - September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS STEIN, Monthly Budget OPTAR Reports, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS STERETT, Monthly Budget OPTAR Reports, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

USS WHIPPLE, Monthly Budget OPTAR Reports, October 1985-September 1987, Naval messages maintained at COMNAVSURFPAC Budget and Fiscal Offices, Naval Amphibious Base Coronado, San Diego, CA.

Williams, T. D., An Analysis of Selected Surface Ship OPTAR Obligation Patterns and Their Dependency on Operating Schedules and Other Factors, Master's Thesis, Naval Postgraduate School, Monterey, CA, June 1987.

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